DENON

AV SURROUND RECEIVER

AVR-4308CI

Owner's Manual

SAFETY INSTRUCTIONS

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION:
TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING:
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

1. Read Instructions – All the safety and operating instructions should be read before the product is operated.
2. Retain Instructions – The safety and operating instructions should be retained for future reference.
3. Heed Warnings – All warnings on the product and in the operating instructions should be adhered to.
4. Follow Instructions – All operating and use instructions should be followed.
5. Cleaning – Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners.
6. Attachments – Do not use attachments not recommended by the product manufacturer as they may cause hazards.
7. Water and Moisture – Do not use this product near water – for example, near a bath tub, wash bowl, kitchen sink, or laundry tub; in a wet basement; or near a swimming pool; and the like.
8. Accessories – Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.
9. A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.
10. Ventilation – Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
11. Power Sources – This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company. For products intended to operate from battery power, or other sources, refer to the operating instructions.
12. Grounding or Polarization – This product may be equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

FIGURE A
EXAMPLE OF ANTENNA GROUNDING AS PER NATIONAL ELECTRICAL CODE

ANTENNA LEAD IN WIRE
GROUND CLAMP
ANTENNA DISCHARGE UNIT (NEC SECTION 810-20)
ELECTRIC SERVICE EQUIPMENT
GROUNDING CONDUCTORS (NEC SECTION 810-21)
GROUND CLAMPS
POWER SERVICE GROUNDING ELECTRODE SYSTEM
NEC - NATIONAL ELECTRICAL CODE (NEC ART 250, PART H)
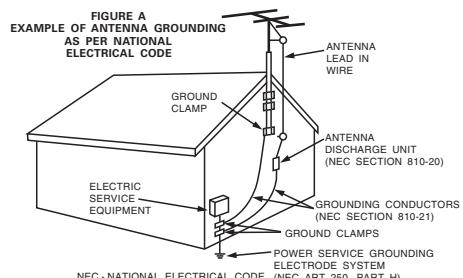
13. Power-Cord Protection – Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.
15. Outdoor Antenna Grounding – If an outside antenna or cable system is connected to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure A.
16. Lightning – For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.
17. Power Lines – An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.
18. Overloading – Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.
19. Object and Liquid Entry – Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.
20. Servicing – Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
21. Damage Requiring Service – Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
    a) When the power-supply cord or plug is damaged,
    b) If liquid has been spilled, or objects have fallen into the product,
    c) If the product has been exposed to rain or water,
    d) If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation,
    e) If the product has been dropped or damaged in any way, and
    f) When the product exhibits a distinct change in performance – this indicates a need for service.
22. Replacement Parts – When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
23. Safety Check – Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.
24. Wall or Ceiling Mounting – The product should be mounted to a wall or ceiling only as recommended by the manufacturer.
25. Heat – The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

FCC Information (For US customers)

1. COMPLIANCE INFORMATION
Product Name: AV Surround Receiver
Model Number: AVR-4308CI
This product contains FCC ID: BV2- MPGBR052.

This product complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this product may not cause harmful interference, and (2) this product must accept any interference received, including interference that may cause undesired operation.

Denon Electronics (USA), LLC
100 Corporate Drive, Marwah, NJ 07430-2041
Tel. 201-762-6500 (Main)

2. IMPORTANT NOTICE: DO NOT MODIFY THIS PRODUCT
This product, when installed as indicated in the instructions contained in this manual, meets FCC requirements. Modification not expressly approved by DENON may void your authority, granted by the FCC, to use the product.

3. CAUTION
• To comply with FCC RF exposure compliance requirement, separation distance of at least 20 cm must be maintained between the antenna of this product and all persons.
• This product and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.

4. NOTE
This product has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.
This product generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this product does cause harmful interference to radio or television reception, which can be determined by turning the product OFF and ON, the user is encouraged to try to correct the interference by one or more of the following measures:
• Reorient or relocate the receiving antenna.
• Increase the separation between the equipment and receiver.
• Connect the product into an outlet on a circuit different from that to which the receiver is connected.
• Consult the local retailer authorized to distribute this type of product or an experienced radio/TV technician for help.

IC Information (For Canadian customers)

1. PRODUCT
This product contains IC 6963A-MPGBR052.
This product complies with RSS-210 of Industry Canada. Operation is subject to the following two conditions: (1) this product may not cause harmful interference, and (2) this product must accept any interference received, including interference that may cause undesired operation.
This Class B digital apparatus complies with Canadian ICES-003.

APPAREIL
Cet appareil contiens IC 6963A- MPGBR052.
Cet appareil est conforme à la norme CNR-210 du Canada. L'utilisation de ce dispositif est autorisée seulement aux deux conditions suivantes : (1) il ne doit pas produire de brouillage, et (2) l'utilisateur du dispositif doit être prêt à accepter tout brouillage radioélectrique reçu, même si ce brouillage est susceptible de compromettre le fonctionnement du dispositif.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

2. CAUTION
To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that permitted for successful communication.

ATTENTION
Afin de réduire le risque d'interférence aux autres utilisateurs, il faut choisir le type d'antenne et son gain de façon à ce que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne soit pas supérieure au niveau requis pour l'obtention d'une communication satisfaisante.

## ❏ NOTE ON USE / OBSERVATIONS RELATIVES A L'UTILISATION

• Avoid high temperatures.
Allow for sufficient heat dispersion when installed in a rack.
• Eviter des températures élevées.
Tenir compte d'une dispersion de chaleur suffisante lors de l'installation sur une étagère.

• Keep the unit free from moisture, water, and dust.
• Protéger l'appareil contre l'humidité, l'eau et la poussière.

• Do not let foreign objects into the unit.
• Ne pas laisser des objets étrangers dans l'appareil.

• Unplug the power cord when not using the unit for long periods of time.
• Débrancher le cordon d'alimentation lorsque l'appareil n'est pas utilisé pendant de longues périodes.

• Do not let insecticides, benzene, and thinner come in contact with the unit.
• Ne pas mettre en contact des insecticides, du benzène et un diluant avec l'appareil.
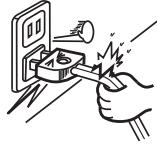
• Handle the power cord carefully.
Hold the plug when unplugging the cord.
• Manipuler le cordon d'alimentation avec précaution.
Tenir la prise lors du débranchement du cordon.

* (For apparatuses with ventilation holes)

• Do not obstruct the ventilation holes.
• Ne pas obstruer les trous d'aération.

• Never disassemble or modify the unit in any way.
• Ne jamais démonter ou modifier l'appareil d'une manière ou d'une autre.

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Getting Started

Thank you for purchasing this DENON product. To ensure proper operation, please read these owner's manual carefully before using the product.
After reading them, be sure to keep them for future reference.

Accessories

Check that the following parts are supplied with the product.

q Owner's manual 1
w Warranty (for North America model only) 1
e Service station list 1
r Power cord (Cord length: Approx. 5 ft /1.5 m) 1
t Main remote control (RC-1068) 1
y LR6/AA batteries (for RC-1068) 2
u Sub remote control (RC-1070) 1
i R03/AAA batteries (for RC-1070) 2
o FM indoor antenna 1
Q0 AM loop antenna (small, for AM broadcasts) 1
Q1 AM loop antenna (large, for HD Radio broadcasts) 1
Q2 Dipole antenna (for HD Radio broadcasts) 1
Q3 Rod antenna for wireless LAN connection 1
Q4 Setup microphone (Cord length: Approx. 25 ft / 7.6 m) 1

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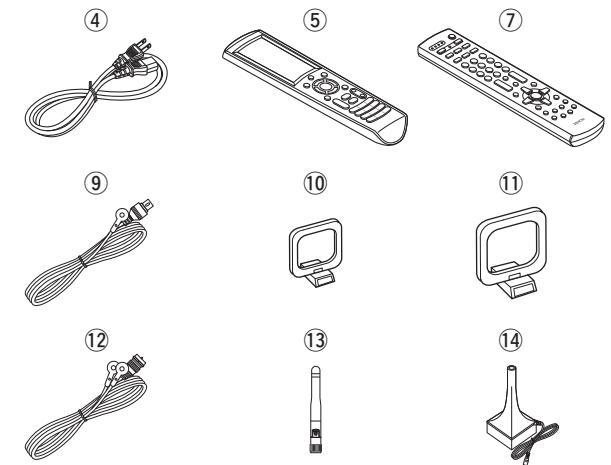
Cautions on Handling

• **Before turning the power switch on**

Check once again that all connections are correct and that there are no problems with the connection cables.

• Power is supplied to some of the circuitry even when the unit is set to the standby mode. When traveling or leaving home for long periods of time, be sure to unplug the power cord from the power outlet.

• **About condensation**

If there is a major difference in temperature between the inside of the unit and the surroundings, condensation (dew) may form on the operating parts inside the unit, causing the unit not to operate properly.

If this happens, let the unit sit for an hour or two with the power turned off and wait until there is little difference in temperature before using the unit.

• **Cautions on using mobile phones**

Using a mobile phone near this unit may result in noise. If so, move the mobile phone away from this unit when it is in use.

• **Moving the unit**

Turn off the power and unplug the power cord from the power outlet.

Next, disconnect the connection cables to other system units before moving the unit.

• Note that the illustrations in these instructions may differ from the actual unit for explanation purposes.

Cautions on Installation

Note:

For proper heat dispersal, do not install this unit in a confined space, such as a bookcase or similar enclosure.
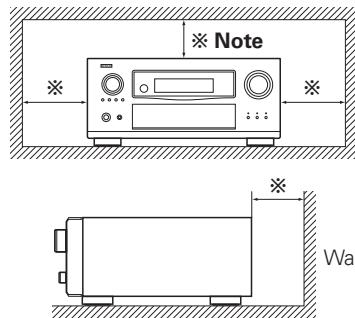
About the Remote Control Unit

In addition to the AVR-4308CI, the included main remote control unit (RC-1068) can also be used to operate the equipment listed below.
① DENON system components
② Non-DENON system components
  • By setting the preset memory (☞ page 61 ~ 63)
  • By using the learn function (☞ page 64)

Inserting the Batteries

① Lift the clasp and remove the rear lid.

(RC-1068)   (RC-1070)
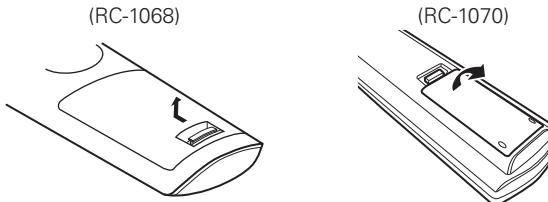
② Load the two batteries properly as indicated by the marks in the battery compartment.

(RC-1068)   (RC-1070)

LR6/AA   R03/AAA
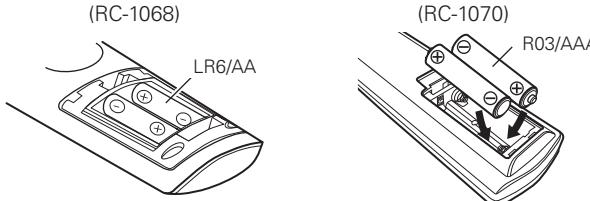
③ Put the rear cover back on.

NOTE

• Replace the batteries with new ones if the set does not operate even when the remote control unit is operated close to the unit.
• The supplied batteries are only for verifying operation.
• When inserting the batteries, be sure to do so in the proper direction, following the "⊕" and "⊖" marks in the battery compartment.
• To prevent damage or leakage of battery fluid:
  • Do not use a new battery together with an old one.
  • Do not use two different types of batteries.
  • Do not attempt to charge dry batteries.
  • Do not short-circuit, disassemble, heat or dispose of batteries in flames.
• If the battery fluid should leak, carefully wipe the fluid off the inside of the battery compartment and insert new batteries.
• Remove the batteries from the remote control unit if it will not be in use for long periods.
• When replacing the batteries, have the new batteries ready and insert them as quickly as possible.

Operating Range of the Remote Control Unit

Point the remote control unit at the remote sensor when operating it.

(RC-1070)

30°
30°

or

Approx. 23 feet / 7 m

(RC-1068)
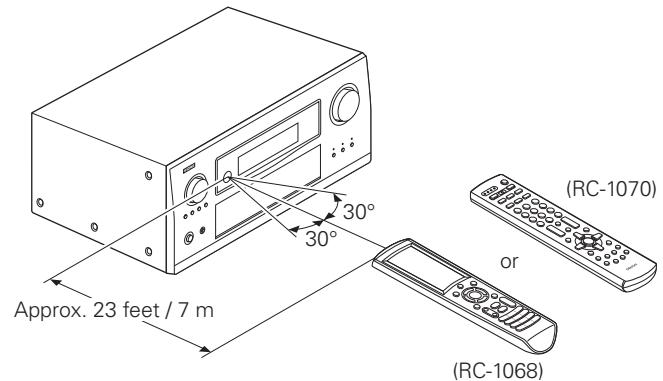
NOTE

The set may function improperly or the remote control unit may not operate if the remote control sensor is exposed to direct sunlight, strong artificial light from an inverter type fluorescent lamp or infrared light.

3

Part Names and Functions

For buttons not explained here, see the page indicated in parentheses ( ).

Front Panel
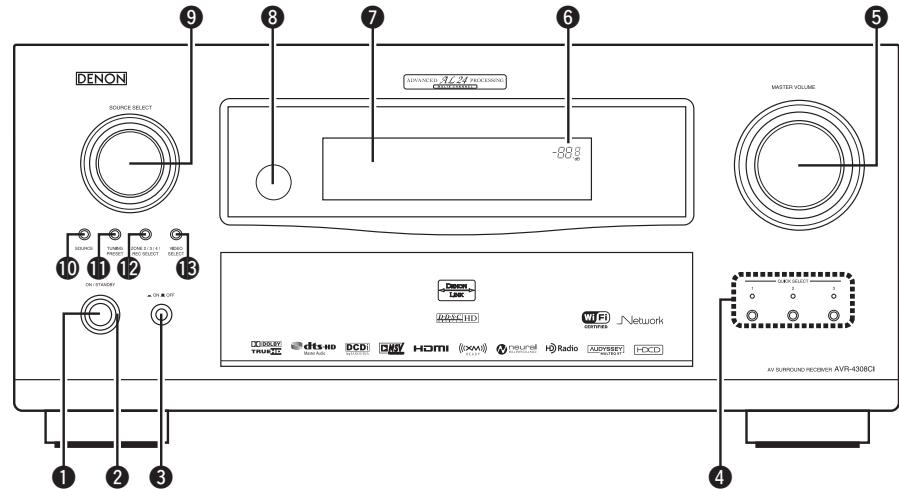
【With the door open】
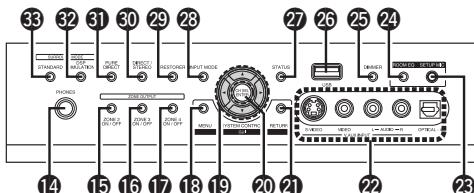
❶ **Power operation button (ON/STANDBY)** ··· (47)

❷ **Power indicator** ·· (47)

❸ **Power switch (▬ON ▬OFF)** ····················· (47)

❹ **QUICK SELECT buttons / indicators** ········· (59)

❺ **MASTER VOLUME control knob** ················ (47)

❻ **Master volume indicator**
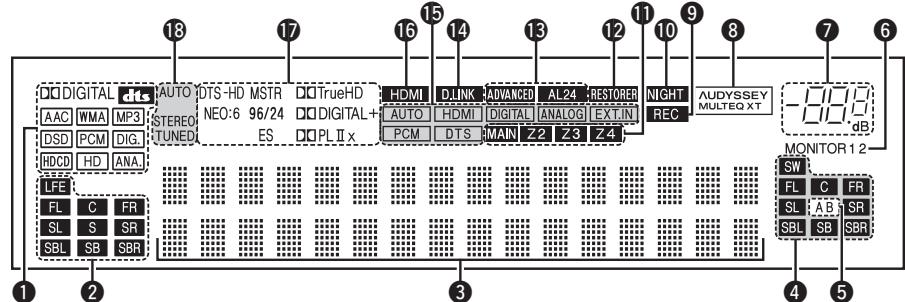
❼ **Display**

Display

❶ **Input signal indicators**

❷ **Input signal channel indicators**
These light when digital signals are input.

❸ **Information display**
The input source name, surround mode, setting values and other information are displayed here.

❹ **Output signal channel indicators**

❺ **Surround speaker indicators**
These light according to the settings of the surround A and B speakers.

❻ **Monitor output indicators**
These light according to the HDMI monitor output setting. When set to "Auto", the indicators light according to the connection status.

❼ **Master volume indicator**

❽ **AUDYSSEY MULTEQ XT indicator**
This lights when the room equalizer is selected.

❾ **Recording output source indicator**
This lights when the REC OUT mode is selected.

❿ **NIGHT indicator**
This lights when the night mode is selected.

⓫ **Multi zone indicators**
These light when the power for the respective zone is turned on.

⓬ **RESTORER indicator**
This lights when the RESTORER mode is selected.

⓭ **ADVANCED AL24 indicator**
This lights when Advanced AL24 Processing is activated (☞ page 76).

⓮ **D.LINK indicator**
This lights when playing using DENON LINK connections.

⓯ **Input mode indicators**

⓰ **HDMI indicator**
This lights when playing using HDMI connections.

⓱ **Decoder indicators**
These light when the respective decoders are operating.

⓲ **Tuner reception mode indicators**
These light according to the reception conditions when the input source is set to "TUNER" or "HD Radio".
• **AUTO**
These light when in the auto tuning mode.
• **STEREO**
In the FM mode, these light when receiving analog stereo broadcasts.
• **TUNED**
Lights when the broadcast is properly tuned in.

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Rear Panel

❶ **RS-232C connector** ·· (21)

❷ **TRIGGER OUT jacks** ··································· (21)

❸ **FM/AM antenna terminals**
   (TUNER ANTENNA) ····································· (19)

❹ **DOCK CONTROL jack** ································· (13)

❺ **Speaker terminals (SPEAKERS)** ·················· (9)

❻ **AC OUTLETS** ··· (22)

❼ **AC inlet (AC IN)** ··· (22)
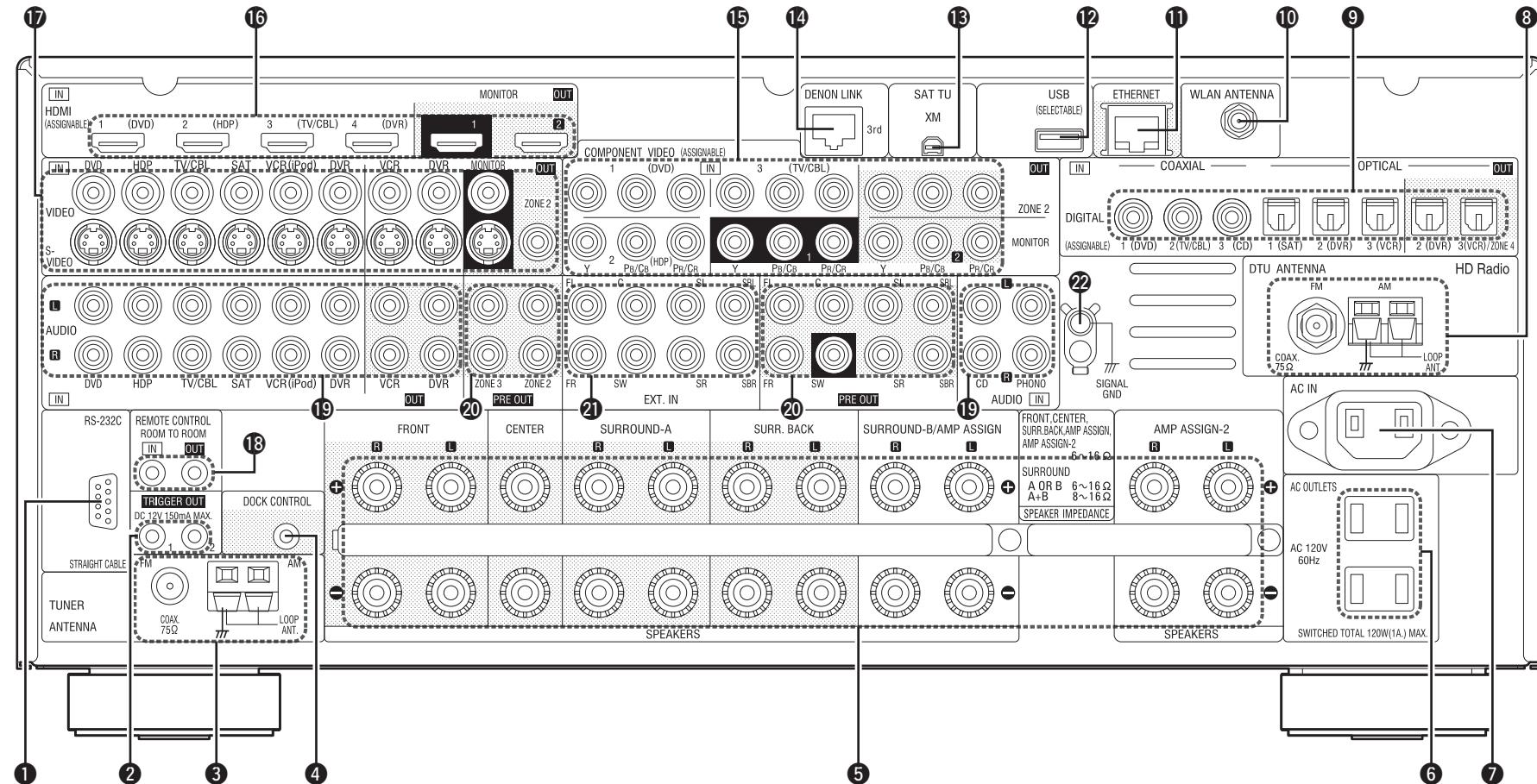
❽ **HD Radio antenna terminals**
   (DTU ANTENNA) ·· (19)

❾ **Digital audio connectors**
   (OPTICAL / COAXIAL) ·························· (12, 14)

❿ **WLAN ANTENNA terminal** ························· (20)

⓫ **ETHERNET connector** ································· (20)

⓬ **USB port** ··· (18)

⓭ **XM connector (SAT TU)** ······························ (18)

⓮ **DENON LINK connector** ····························· (16)

⓯ **COMPONENT VIDEO connectors** ·············· (12)

⓰ **HDMI connectors** ··· (11)

⓱ **VIDEO / S-VIDEO connectors** ···················· (12)

⓲ **REMOTE CONTROL jacks** ··························· (21)

⓳ **Analog audio connectors (AUDIO)** ············· (12)

⓴ **PRE OUT connectors** ······························ (17, 21)

㉑ **EXT. IN connectors** ···································· (17)

㉒ **SIGNAL GND terminal** ······························· (13)

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Remote Control Unit

❏ Main remote control unit (RC-1068)

❶ **Signal transmission indicator** ·················· (61)

❷ **Mode select buttons** ······················· (61)

❸ **Quick select / System call buttons** ····· (59, 65)

❹ **Surround mode buttons** ···················· (41, 42)

❺ **System buttons** ····························· (62, 63)

❻ **Audio delay button (A. DL)** ·················· (45)

❼ **Tuner system buttons** ······················ (48)

❽ **Input mode button (INPUT)** ················· (39)

❾ **MENU button** ································ (23)

❿ **Cursor buttons (△▽◁ ▷)** ···················· (23)

⓫ **Parameter / Search button**
(PARA / SRCH) ···················· (42, 50, 52)

⓬ **Monitor select (M. SEL) /**
HOME button ························· (30, 61)

⓭ **Channel buttons (CH)** ···················· (47)

⓮ **Input source select / Number buttons** ··· (37, 48)

⓯ **Remote control signal transmitter** ············· (3)

⓰ **Device select indicators (DEV1 / DEV2)** ··· (61)

⓱ **ZONE3 / ZONE4 select indicators**
(Z3 / Z4) ······························ (73)

⓲ **RESTORER button (RSTR)** ·················· (44)

⓳ **Night button (NGT)** ························· (45)

⓴ **Test tone button (TEST)** ···················· (29)

㉑ **Surround speaker select button (SPKR)** ··· (29)

㉒ **POWER buttons** ··························· (47)

㉓ **Channel select (CH SEL) /**
ENTER button ························ (23, 59)

㉔ **Return button (RTN)** ······················· (23)

㉕ **Master volume control buttons (VOL)** ······ (47)

㉖ **Muting button (MUTE)** ···················· (47, 73)

㉗ **Main remote control unit setup button**
(RC SETUP) ····························· (61)

✎

The time for which the backlight stays on can be changed (☞page 65 "Setting the Time the Backlight Stays Lit").

NOTE

The ZONE2 mode **QUICK SELECT (1 ~ 3)**, **A. DL**, **RSTR**, **NGT**, **INPUT**, **SPKR**, **TEST** and surround mode buttons cannot be used.

❏ Sub remote control unit (RC-1070)

❶ **ZONE indicators**·························· (69)

❷ **Advanced setup button**····················· (69)

❸ **Input source select buttons**················· (37)

❹ **CHANNEL buttons**························· (47)

❺ **SHIFT button**······························· (47)

❻ **MENU button**····························· (23)

❼ **Cursor buttons (△▽◁ ▷)**···················· (23)

❽ **SEARCH button**························· (50, 52)

❾ **REPEAT button**···························· (52)

❿ **RANDOM button**··························· (52)

⓫ **Remote control signal transmitter**············· (3)

⓬ **ZONE SELECT button**······················ (69)

⓭ **Zone power on/off buttons**
(ZONE ON / ZONE OFF)···················· (73)

⓮ **Master volume control buttons**
(VOLUME)······························ (69)

⓯ **Muting button (MUTE)**················· (47, 73)

⓰ **ENTER button**····························· (23)

⓱ **RETURN button**···························· (23)

⓲ **System buttons**························· (48, 67)

⓳ **ALL MUSIC/FAVORITES**
(DIRECT PLAY) button···················· (67)

⓴ **USB (DIRECT PLAY) button**················ (67)

NOTE

The **AUX-1**, **AUX-2**, **AUX-3**, **DVR-2** and **OPTION** buttons cannot be used.

6

Connections

Connections for all compatible audio and video signal formats are described in these operating instructions. Please select the types of connections suited for the equipment you are connecting.
With some types of connections, certain settings must be made on the AVR-4308CI. For details, refer to the instructions for the respective connection items below.

NOTE

• Do not plug in the power cord until all connections have been completed.
• When making connections, also refer to the operating instructions of the other components.
• Be sure to connect the left and right channels properly (left with left, right with right).
• Do not bundle power cords together with connection cables. Doing so can result in humming or noise.

Preparations

Cables Used for Connections

Select the cables according to the equipment being connected.

Audio cables	Video cables
Coaxial digital connections	**Component video connections**
(Orange) Coaxial digital (75 Ω/ohms pin-plug) cable	(Green) (Y) / (Blue) (PB/CB) / (Red) (PR/CR) — Component video cable
Optical digital connections	**S-Video connections**
Optical cable	S-Video cable
Analog connections (stereo)	**Video connections**
(White) (L) / (Red) (R) — Stereo pin-plug cable	(Yellow) 75 Ω/ohms pin-plug video cable
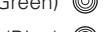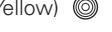
Audio and video cables
Analog connections (monaural, for subwoofer)
(Black) Pin-plug cable
HDMI connections
19-pin HDMI cable

DENON LINK connections	**Signal direction**
DENON LINK cable	

Speaker connections

+   +
−   −

Speaker cables

Network connections (wired LAN)

Ethernet cable

Signal direction

Audio signal:

Output | Input

Input | Output

Video signal:

Output | Input

Input | Output

7

Getting Started

Connections

Setup

Playback

Remote Control

Multi-Zone

Information

Troubleshooting
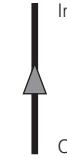
Video Conversion Function

• This function automatically converts various formats of video signals input to the AVR-4308CI into the format used to output the video signals from the AVR-4308CI to a monitor.
• The AVR-4308CI's video input/output circuitry is compatible with the following four types of video signals:
Digital video signals: HDMI
Analog video signals: Component video, S-Video and Video

【**Flow of video signals inside the AVR-4308CI**】

Main zone

High picture quality playback

HDMI connector → HDMI connector

Y PB/CB PR/CR
Component video connectors → Component video connectors → Monitor

S-Video connector → S-Video connector

Video connector → Video connector

Video inputs   Video outputs

- - - - : When 480i/576i signals are input in the main zone

【**Flow of video signals for ZONE2**】

ZONE2

High picture quality playback

Y PB/CB PR/CR
Component video connectors → Component video connectors → ZONE2 monitor

S-Video connector

Video connector → Video connector

Video inputs   Video outputs

✎

• When not using this function, connect a monitor output with the same type of connector as the video input connector.
• The resolution of the HDMI input-compatible monitor connected to the AVR-4308CI can be checked at GUI menu "Information" – "HDMI Information" – "Monitor1" or "Monitor2" (☞ page 46).

NOTE

• HDMI signals cannot be converted into analog signals.
• 1080p component input video signals cannot be output to anything other than component video connectors.
• 480p/576p, 1080i and 720p component video input signals cannot be converted into S-Video or Video format.
• When using the component video output connectors for connection to the ZONE2 monitor, the ZONE2's on-screen display is not displayed.

Speaker Connections

Speaker Installation

The illustration below shows a basic example of installation of the amplifier combined with 8 speakers and a monitor.

Subwoofer

Center speaker

Surround back speakers

Front speakers
Place the front speakers to the sides of the monitor or screen and as flush with the screen surface as possible.
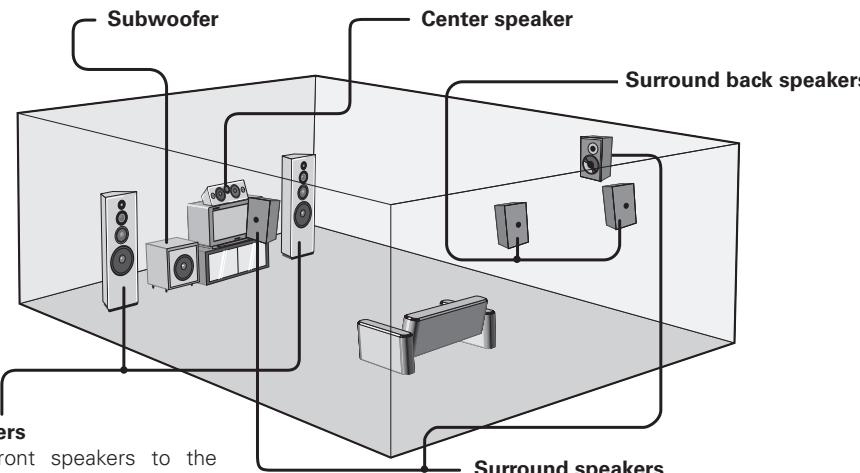
Surround speakers

The table below shows a typical speaker configuration for the AVR-4308CI.

	Front		Center	Surround A		Surround B		Surround back			Subwoofer
	L	R		L	R	L	R	L	R	1 only	
7.1-channels (Surround A+B)	◯	◯	◯	◯	◯	◯	◯	◯	◯	–	◯
7.1-channels	◯	◯	◯	◯	◯	–	–	◯	◯	–	◯
6.1-channels	◯	◯	◯	◯	◯	–	–	–	–	◯	◯
5.1-channels	◯	◯	◯	◯	◯	–	–	–	–	–	◯
3.1-channels	◯	◯	◯	–	–	–	–	–	–	–	◯
2.1-channels	◯	◯	–	–	–	–	–	–	–	–	◯
2-channels	◯	◯	–	–	–	–	–	–	–	–	–

Speaker Connections

Example: 7.1-channels (Surround A+B) and ZONE2 use

Front speakers

Center speaker

Surround back speakers

Subwoofer

Subwoofer with built-in amplifier

※ L : Left
R : Right

Surround speakers A

Surround speakers B

ZONE2 speakers
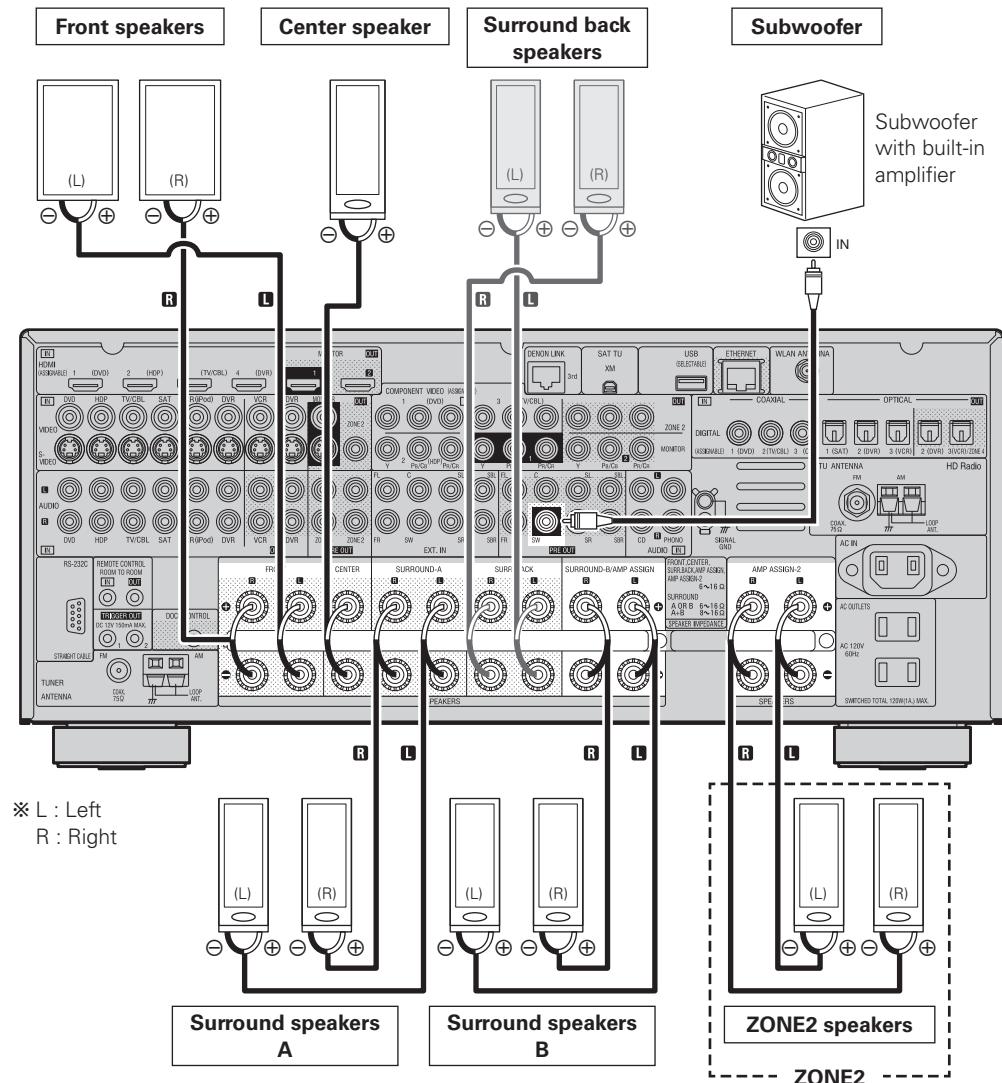
ZONE2

When using just one surround back speaker, connect it to the left channel (SBL).

NOTE

By default, the AVR-4308CI's "Amp Assign" setting is set to "ZONE2", so sound is not output simply by connecting a speaker to the surround back terminal. To use as the surround back speaker for the main zone, either turn the ZONE2 power off or change the "Amp Assign" setting (☞ page 70, 71).

Connecting the Speaker Cables

Carefully check the left (L) and right (R) channels and + (red) and – (black) polarities on the speakers being connected to the AVR-4308CI, and be sure to interconnect the channels and polarities correctly.

1 **Peel off about 0.03 ft/10 mm of sheathing from the tip of the speaker cable, then either twist the core wire tightly or terminate it.**

2 **Turn the speaker terminal counterclockwise to loosen it.**

3 **Insert the speaker cable's core wire to the hilt into the speaker terminal.**

4 **Turn the speaker terminal clockwise to tighten it.**

When using a banana plug

Tighten the speaker terminal firmly before inserting the banana plug.

NOTE

• Use speakers with an impedance of 6 to 16 Ω/ohms. When using surround A and B speakers simultaneously, use speakers with an impedance of 8 to 16 Ω/ohms.

• Connect the speaker cables in such a way that they do not stick out of the speaker terminals. The protection circuit may be activated if the core wires touch the rear panel or if the + and – sides touch each other (☞ "Protection circuit").

• Never touch the speaker terminals while the power supply is connected. Doing so could result in electric shock.

Protection circuit

If speakers with an impedance lower than specified (for example 4 Ω/ohms speakers) are used for an extended period of time with the volume turned up high, the temperature may rise, activating the protection circuit.

When the protection circuit is activated, the speaker output is shut off and the power indicator flashes red. If this happens, unplug the power cord, then check the speaker cable and input cable connections. If the set is extremely hot, wait for it to cool off and improve ventilation around it. Once this is done, plug the power cord back in and turn the set's power back on.

If the protection circuit is activated again even though there are no problems in the ventilation around the set nor in the connections, the set may be damaged. Turn the power off, then contact a DENON service center.

Connecting Equipment with HDMI connectors

With HDMI connections, the video and audio signals can be transferred with a single cable.

DVD player

HDMI
OUT

Monitor
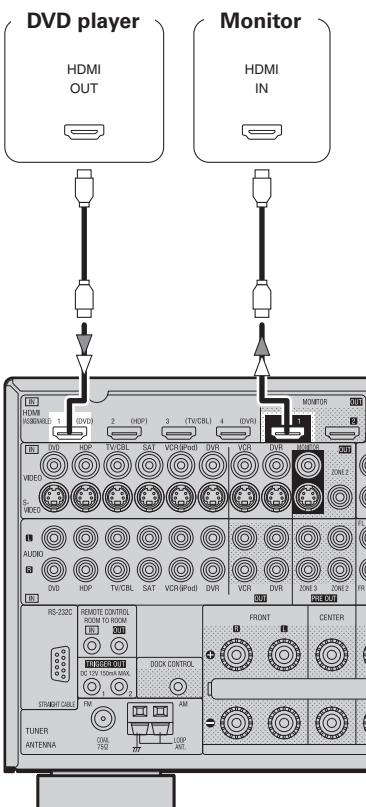
HDMI
IN

※ The AVR-4308CI is equipped for HDMI version 1.3a. This version is compatible with other versions, allowing connection to all components equipped with an HDMI connector.

※ The AVR-4308CI is compatible with 30- and 36-bit Deep Color.

Compatible audio format	Details	Discs (examples)
2-channel linear PCM	2ch 32-192 kHz 16/20/24 bits	CD, DVD-Video, DVD-Audio
Multi-channel linear PCM	8ch 32-192 kHz 16/20/24 bits	DVD-Audio
Dolby Digital, DTS	Bitstream	DVD-Video
DSD	2/5.1ch 2.8224 MHz 1 bit	SACD
Dolby Digital Plus, Dolby TrueHD, DTS-HD	Bitstream	HD DVD, Blu-ray Disc

Copyright protection system (HDCP)

In order to play the digital video and audio signals of a DVD-Video or DVD-Audio disc using HDMI/DVI connections, both the connected DVD player and monitor must be equipped for a copyright protection system called "HDCP" (High-bandwidth Digital Content Protection).

HDCP is a copy protection technology consisting of data encoding and mutual identification of the devices.

The AVR-4308CI is HDCP-compatible. For details on the DVD player or monitor you are using, refer to its operating instructions.

✎
• By default, the HDMI audio signals are output from the speakers connected to the AVR-4308CI.
• To output the sound from the TV, make the settings at GUI menu "Manual Setup" – "HDMI Setup" – "Audio" – "TV" (☞page 30).

NOTE
• Use a CPPM-compatible DVD player to play DVD-Audio discs that are copyright-protected by CPPM.
• The AVR-4308CI cannot be controlled from another device via the HDMI cable.
• The audio signals output from the HDMI connector (sampling frequency, bit rate, etc.) may be restricted by the connected device.
• Video signals are not output properly when using devices that are not HDCP-compatible.
• Video signals are not output if the input video signals do not match the monitor's resolution. In this case, switch the DVD player's resolution to a resolution with which the monitor is compatible.
• If the GUI menu "Manual Setup" – "HDMI Setup" – "Audio" setting (☞page 30) is set to "Amp", the sound may be interrupted when the monitor's power is turned off.
• Use a cable on which the HDMI logo is indicated (a certified HDMI product) for connection to the HDMI connector. Normal playback may not be possible when using a cable other than one on which the HDMI logo is indicated (a non-HDMI-certified product).
• If the monitor or DVD player does not support deep color, deep color signal transfer is not possible.
• If the monitor or DVD player does not support xvYCC, xvYCC signal transfer is not possible.
• If the monitor does not support "Auto Lipsync Correction" function, this function will not work.

✎
• When the AVR-4308CI and DVD player are connected using an HDMI cable, also connect the AVR-4308CI and monitor using an HDMI cable.
• If the connected monitor or DVD player only has a DVI-D connector, use an HDMI/DVI converter cable. When using a DVI cable, no audio signals are transmitted.
• Use a Deep Color compatible cable for connection to Deep Color compatible devices.

When connecting with an HDMI/DVI converter cable (adapter)

• HDMI video signals are theoretically compatible with the DVI format.
  When connecting to a monitor, etc., equipped with a DVI-D connector, connection is possible using an HDMI/DVI converter cable, but depending on the combination of components in some cases the video signals will not be output.
• When connecting using an HDMI/DVI converter adapter, the video signals may not be output properly due to poor connections with the connected cable, etc.

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Connecting the Monitor

• Connect the cables to be used (☞ page 8 "Video Conversion Function").

• With HDMI connections, the video and audio signals can be transferred with a single cable.

• To output the audio signals to the monitor with HDMI connections, set GUI menu "Manual Setup" – "HDMI Setup" – "Audio" to "TV" (☞ page 30).

Monitor

NOTE

• The component video connectors may be indicated differently on your monitor. For details, see the monitor's operating instructions.

• No audio signals are output from the HDMI monitor output connector. To play the sound by monitor, make analog or digital audio output connections to monitor's audio input connectors.

• The audio signals output from the HDMI connectors are only the HDMI input signals.
Video-converted HDMI signals are not included in the audio signals.

Connecting the Playback Components

Carefully check the left (L) and right (R) channels and the inputs and outputs, and be sure to interconnect correctly.

DVD Player

• Connect the cables to be used.

• With HDMI connections, the video and audio signals can be transferred with a single cable.

DVD player

🖉
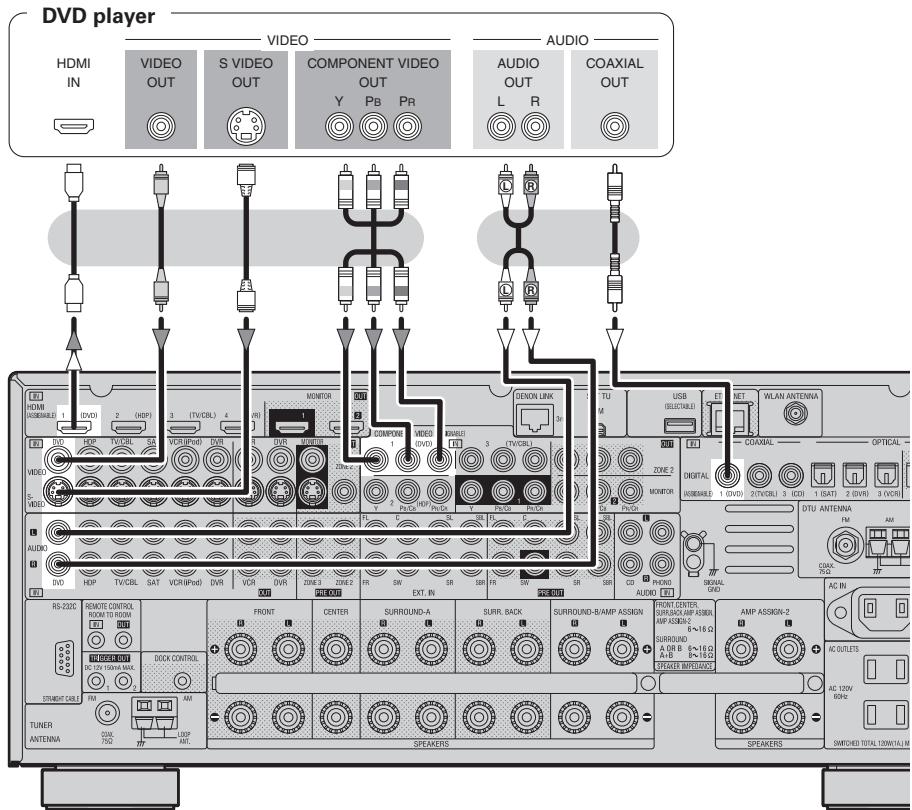
• Connect an HDP (High-Definition Player) in the same way.

• When using an optical cable for the digital audio connection, make the settings at GUI menu "Source Select" – "DVD" – "Assign" – "Digital" (☞ page 40).

Record Player

Turntable (MM cartridge)

AUDIO OUT   GND
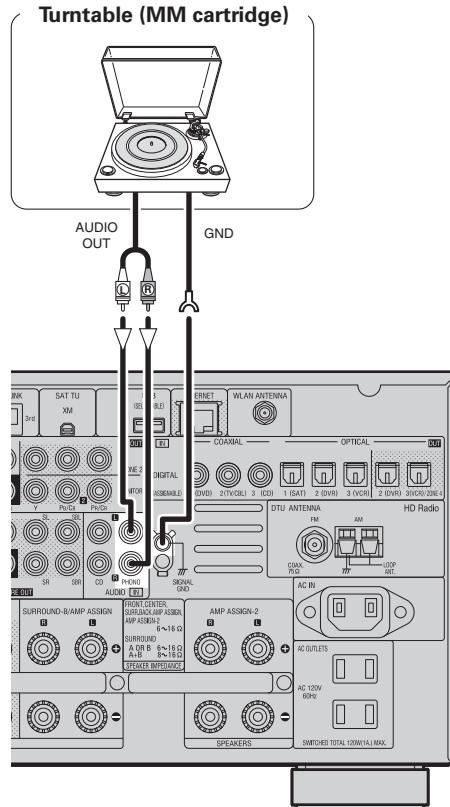
✎
• When connecting a record player with an MC cartridge, use a commercially available MC head amplifier or a step-up transformer.
• Induction humming (a booming sound) may be produced from the speakers if the volume is raised with no record player connected.
• With some record players, noise may be generated when the ground wire is connected. If so, disconnect the ground wire.

NOTE

The AVR-4308CI's SIGNAL GND terminal is meant to reduce noise when a record player is connected. This is not a safety ground terminal.

13

CD Player

Connect the cables to be used.
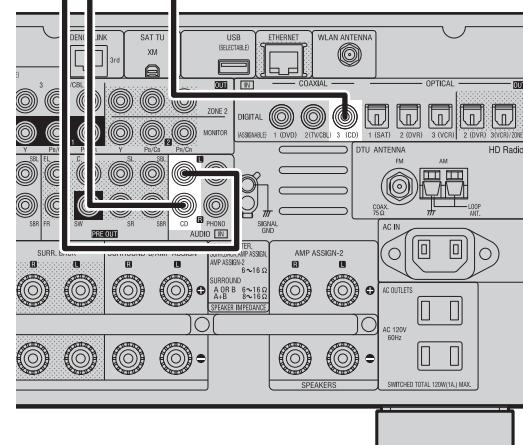
CD player

AUDIO

AUDIO OUT   COAXIAL OUT
L   R

or

✎
When using an optical cable for the digital audio connection, make the settings at GUI menu "Source Select" – "CD" – "Assign" – "Digital" (☞page 40).

iPod®

Use a DENON Control Dock for iPod (ASD-1R, sold separately) to connect the iPod to the AVR-4308CI. For instructions on the Control Dock for iPod settings, refer to the Control Dock for iPod's operating instructions.

Example :

iPod

ASD-1R
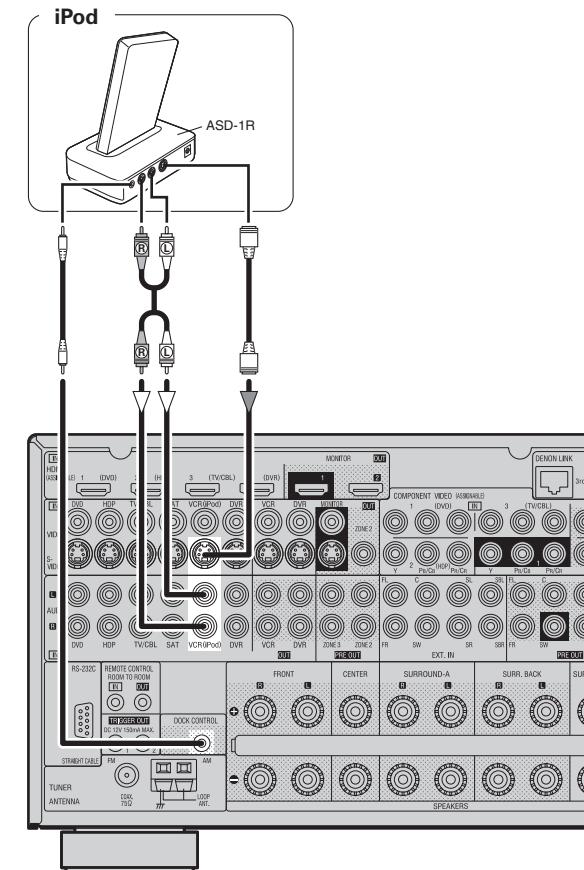
✎
• With the default settings, the iPod can be used connected to the VCR (iPod) connector.
• To assign the iPod to a connector other than VCR (iPod), make the settings at GUI menu "Source Select" – "(input source to which iPod dock assigned)" – "Assign" – "iPod dock" (☞page 40).

TV/CABLE Tuner

Connect the cables to be used.
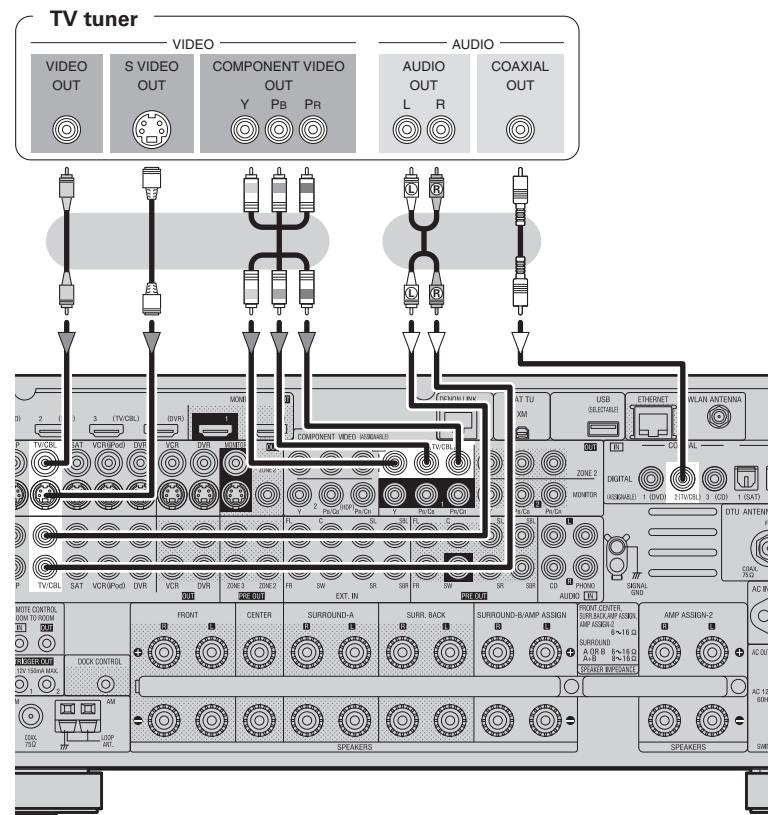
TV tuner

When using an optical cable for the digital audio connection, make the settings at GUI menu "Source Select" – "TV/CBL" – "Assign" – "Digital" (☞page 40).

Satellite Receiver

Connect the cables to be used.

DBS / BS tuner
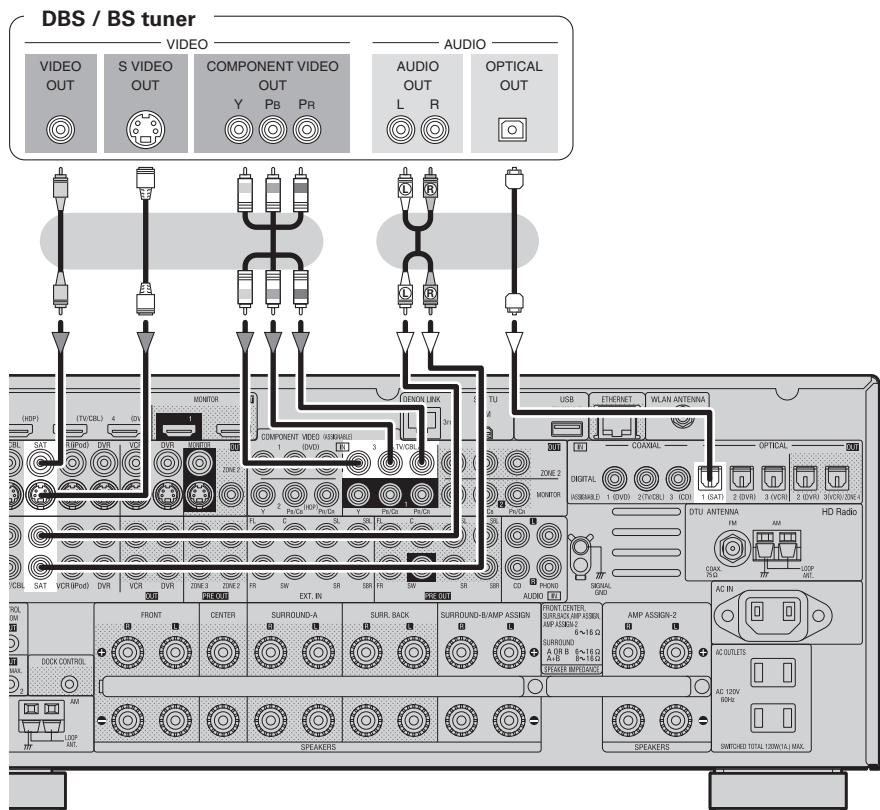
• When using a coaxial digital cable for the digital audio connection, make the settings at GUI menu "Source Select" – "SAT" – "Assign" – "Digital" (☞page 40).
• When using a component video cable for the video connection, make the settings at GUI menu "Source Select" – "SAT" – "Assign" – "Component" (☞page 40).

14

Connecting the Recording Components

Carefully check the left (L) and right (R) channels and the inputs and outputs, and be sure to interconnect correctly.

Digital Video Recorder

Connect the cables to be used.

Digital video recorder

VIDEO — VIDEO OUT IN / S VIDEO IN OUT
AUDIO — AUDIO IN L R OUT L R / OPTICAL OUT IN

or ... or
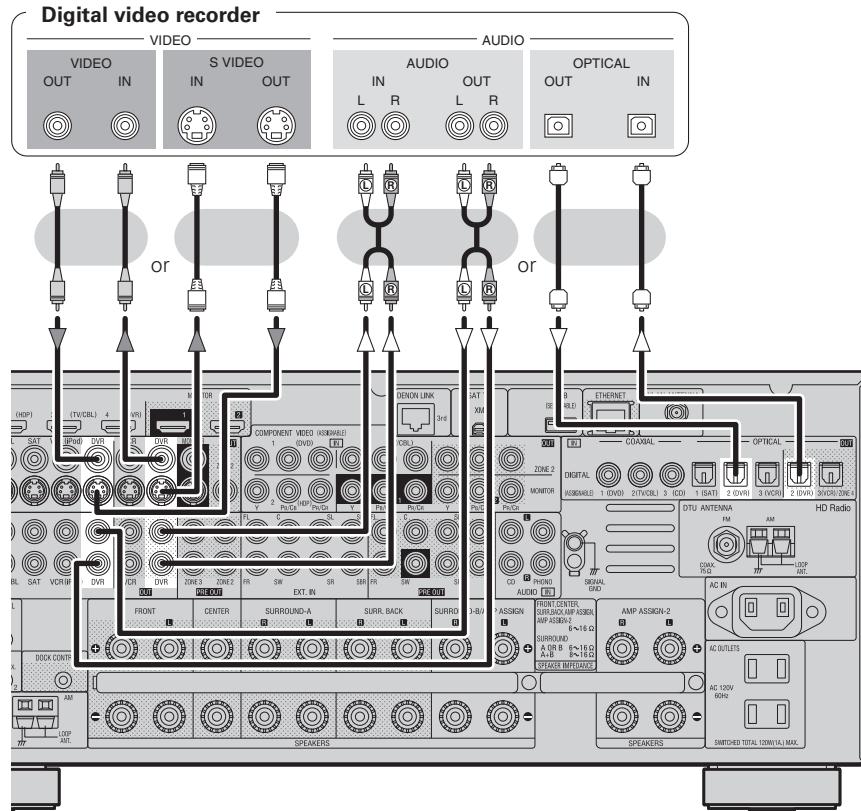
✎
• Make analog connections if you wish to record analog audio signals.
• When recording to a digital video recorder, it is necessary that the type of cable used with the playback source equipment be the same type that is connected to the AVR-4308CI DVR OUT connector.
 Example: TV IN → S-Video cable : DVR OUT → S-Video cable
 TV IN → Video cable : DVR OUT → Video cable
• When using a component video cable for the video connection, make the settings at GUI menu "Source Select" – "DVR" – "Assign" – "Component" (☞page 40).

NOTE
Do not connect the output of the component connected to the AVR-4308CI's OPTICAL2 output connector to any input connector other than OPTICAL2.

15

Video Cassette Recorder

Connect the cables to be used.

Video cassette recorder

VIDEO — VIDEO OUT IN / S VIDEO IN OUT
AUDIO — AUDIO IN L R OUT L R / OPTICAL OUT IN

or ... or
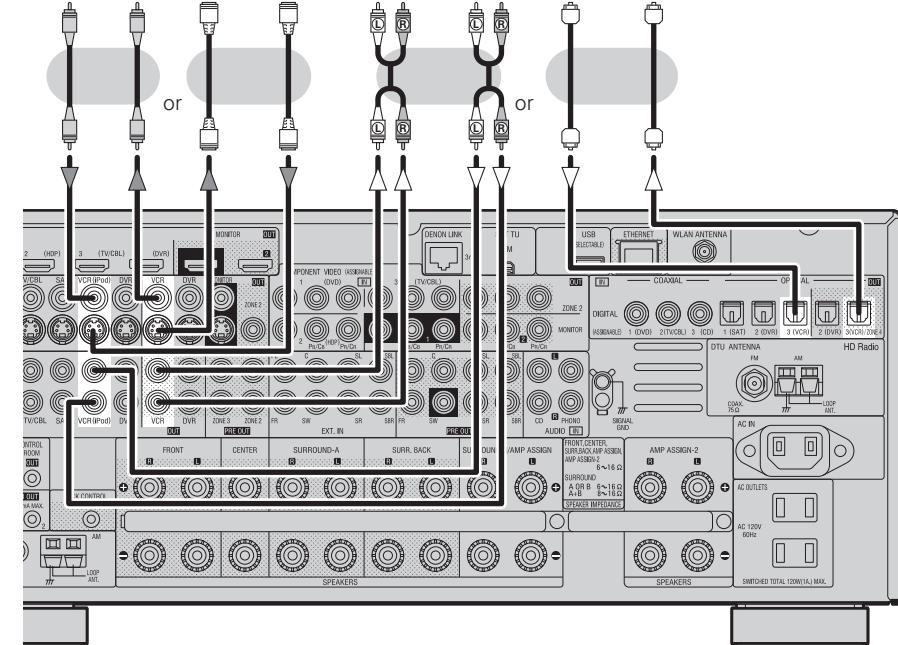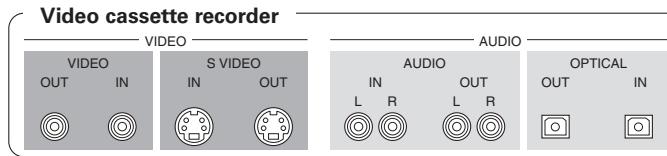
✎
• When recording to a VCR, it is necessary that the type of cable used with the playback source equipment be the same type that is connected to the AVR-4308CI VCR OUT connector.
 Example: TV IN → S-Video cable : VCR OUT → S-Video cable
 TV IN → Video cable : VCR OUT → Video cable
• When using a component video cable for the video connection, make the settings at GUI menu "Source Select" – "VCR" – "Assign" – "Component" (☞page 40).

NOTE
Do not connect the output of the component connected to the AVR-4308CI's OPTICAL3 output connector to any input connector other than OPTICAL3.

CD Recorder / MD Recorder / Tape Deck

Make analog connections if you wish to record analog audio signals, or digital connections if you wish to record digital audio signals, depending on the types of connectors on the components being used.
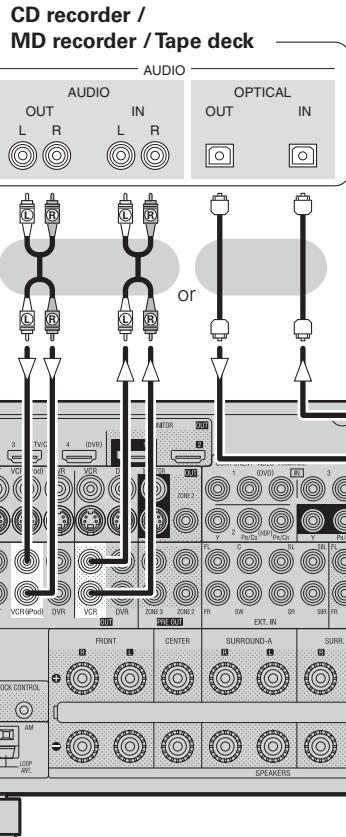
**CD recorder /
MD recorder /Tape deck**

AUDIO

AUDIO		OPTICAL
OUT	IN	OUT	IN
L R	L R	

or

NOTE

Do not connect the output of the component connected to the AVR-4308CI's OPTICAL3 output connector to any input connector other than OPTICAL3.

Connections to Other Devices

Carefully check the left (L) and right (R) channels and the inputs and outputs, and be sure to interconnect correctly.

Components Equipped with a DENON LINK connector

Multi-channel playback is possible with DVD-Audio discs, Super Audio CDs, etc.

DVD player
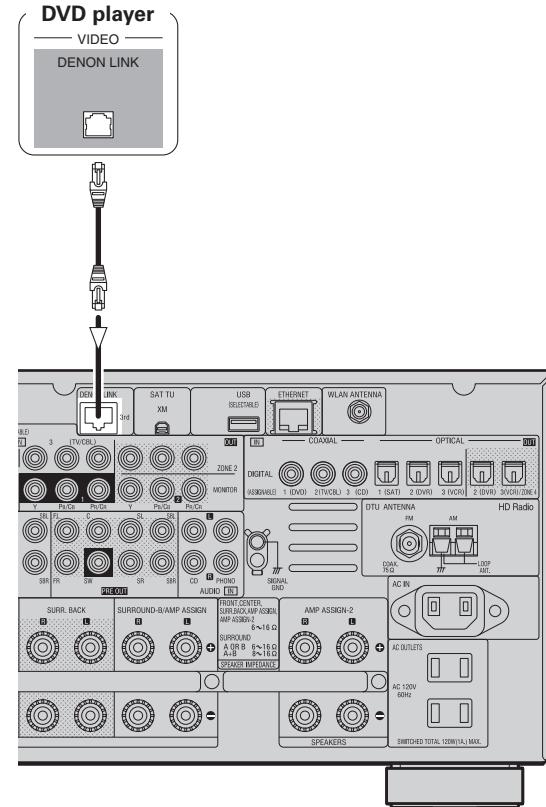
VIDEO

DENON LINK

To use with DENON LINK connections, make the settings at GUI menu "Source Select" – "Assign" – "Digital" – "DENON LINK" (☞page 40).

16

Video Camera / Game Console

Video camera / Game console

VIDEO | AUDIO

| S VIDEO OUT | VIDEO OUT | AUDIO OUT L R | OPTICAL OUT |
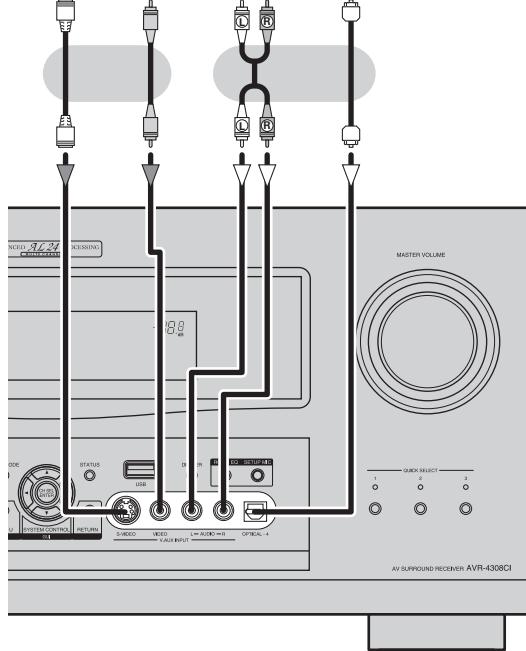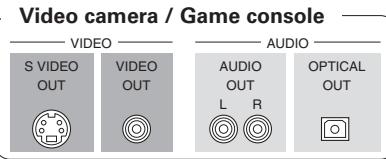
Component with Multi-channel Output connectors

DVD player /
Super Audio CD player / External decoder

AUDIO

| SUB-WOOFER | FRONT L R | CENTER | SURROUND L R | SURROUND BACK L R |

✎

- To play the analog input signals input to the EXT. IN connectors, press the **INPUT MODE** button on the main unit or **INPUT** button on the main remote control unit and select "EXT. IN" or make the settings at GUI menu "Source Select" – "(input source)" – "Input Mode" – "Input Mode" – "EXT. IN" (☞page 39).
- The video signal can be connected in the same way as a DVD player (☞page 12).
- To play copyright-protected discs, connect the AVR-4308CI's EXT. IN connector with the DVD player's analog multi-channel output connector.

External Power Amplifier

Power amplifier

AUDIO

| SUB-WOOFER | FRONT L R | CENTER | SURROUND L R | SURROUND BACK L R |

✎

When using just one surround back speaker, connect it to the left channel (SBL).

USB Port

❏ Front panel

USB memory device

❏ Rear panel

USB memory device

✐
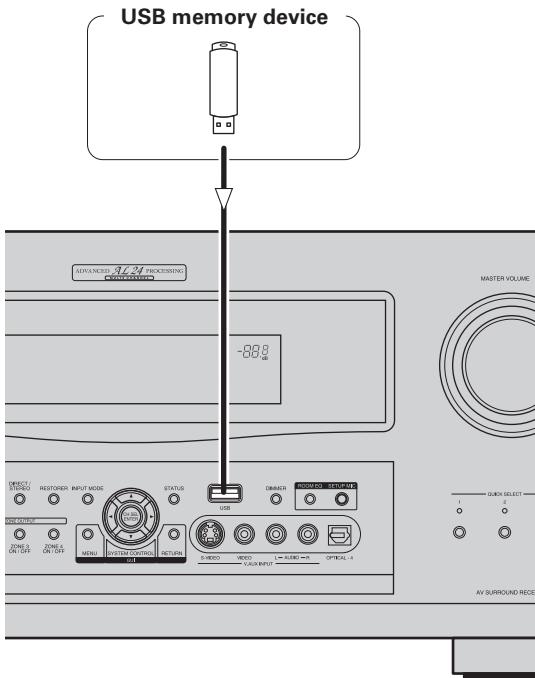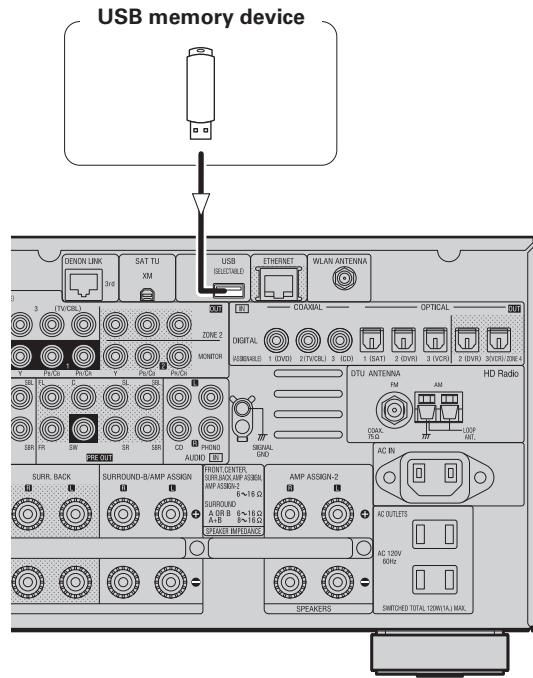
• In the initial status, USB memory devices can be used by connecting them to the USB port on the front panel.
• To change the port to be used, see "USB Select" on page 40.
• For instructions on playing the files on a USB memory device, see page 56, 57.

NOTE

• Set to the USB port you want to use.
• The AVR-4308CI is equipped with two USB ports, one each on the front and rear panels. It is not possible to use the set with USB memory devices connected to both the ports at the same time. Select the USB port you want to use at the "Source Select" – "NET/USB" – "Playback Mode" – "USB Select" menu.

XM connector

• The AVR-4308CI is an XM Ready® receiver. You can receive XM® Satellite Radio by connecting to the XM Mini-Tuner and Home Dock (includes home antenna, sold separately) and subscribing to the XM service.
• Plug the XM Mini-Tuner and Home Dock into the XM connector on the rear panel.
• Position the Home Dock antenna near a south-facing window to receive the best signal.
  For details, see "Listening to XM Satellite Radio Programs" (☞ page 49, 50).
  When making connections, also refer to the operating instructions of the XM Mini-Tuner and Home Dock.

XM Mini-Tuner and Home Dock
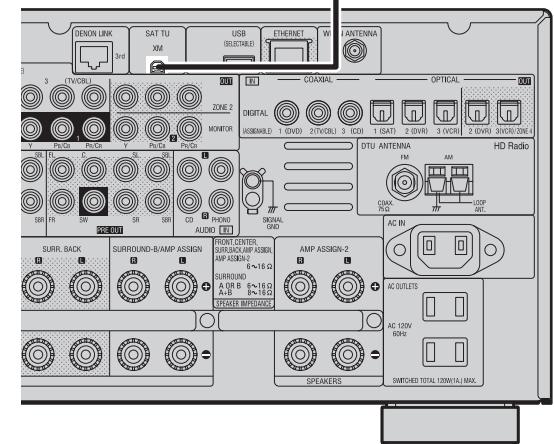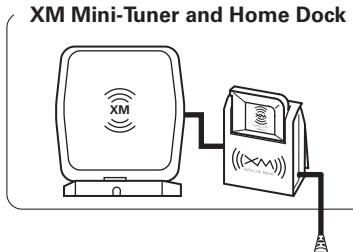
NOTE

Keep the power cord unplugged until the XM Mini-Tuner and Home Dock connection have been completed.

• The XM name and related logo are registered trademarks of XM Satellite Radio Inc. All rights reserved.
• XM Ready is a registered trademark of XM Satellite Radio Inc. All rights reserved.

18

Getting Started

Connections

Setup

Playback

Remote Control

Multi-Zone

Information

Troubleshooting

Antenna terminals

An F-type FM antenna cable plug can be connected directly.

AM/FM

Direction of broadcasting station

FM antenna

AM loop antenna
(small, supplied)

75 Ω/ohms
Coaxial cable

FM indoor antenna
(supplied)

Ground

AM outdoor antenna
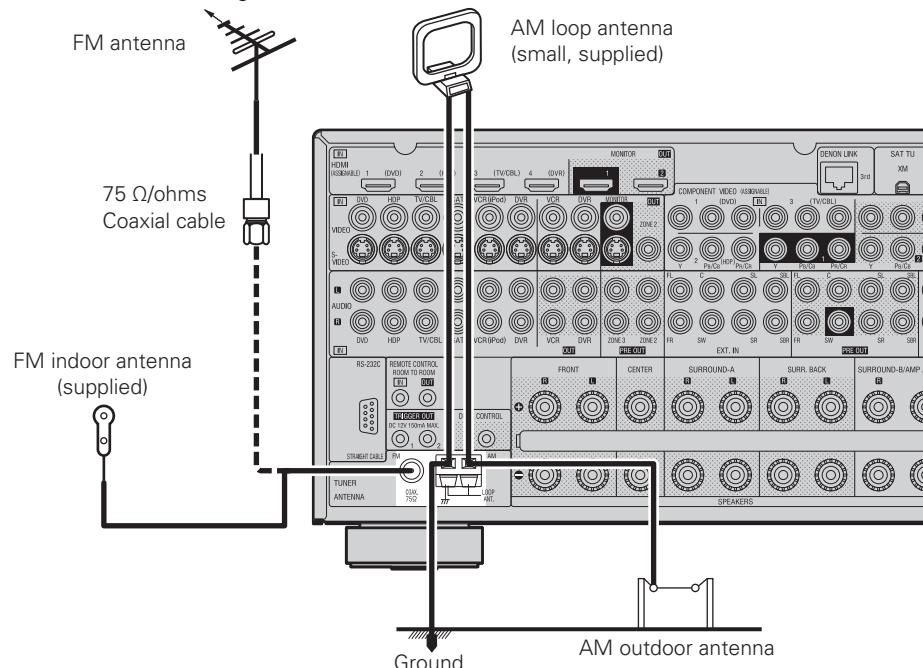
Note to CATV system installer:
This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC which provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

AM loop antenna assembly
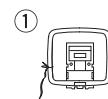
① Remove the vinyl tie and take out the connection line.

② ③ Connect to the AM antenna terminals.

Bend in the reverse direction.

④ a. With the antenna on top of any stable surface.

Mount

b. With the antenna attached to a wall.
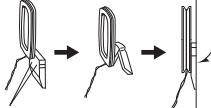
Installation hole Mount on wall, etc.

HD Radio

HD Radio is a service that is only available within the United States.

AM loop antenna
(large, for HD Radio broadcasting, supplied)
• To prevent interference, install at least 3.3 feet/ 1 m away from the antenna connected to the AVR-4308CI's other AM tuner terminal.

Direction of broadcasting station

FM antenna

75 Ω/ohms
Coaxial cable

(Black) (White)

FM indoor antenna
(dipole, for HD Radio broadcasting, supplied)

Ground

AM outdoor antenna
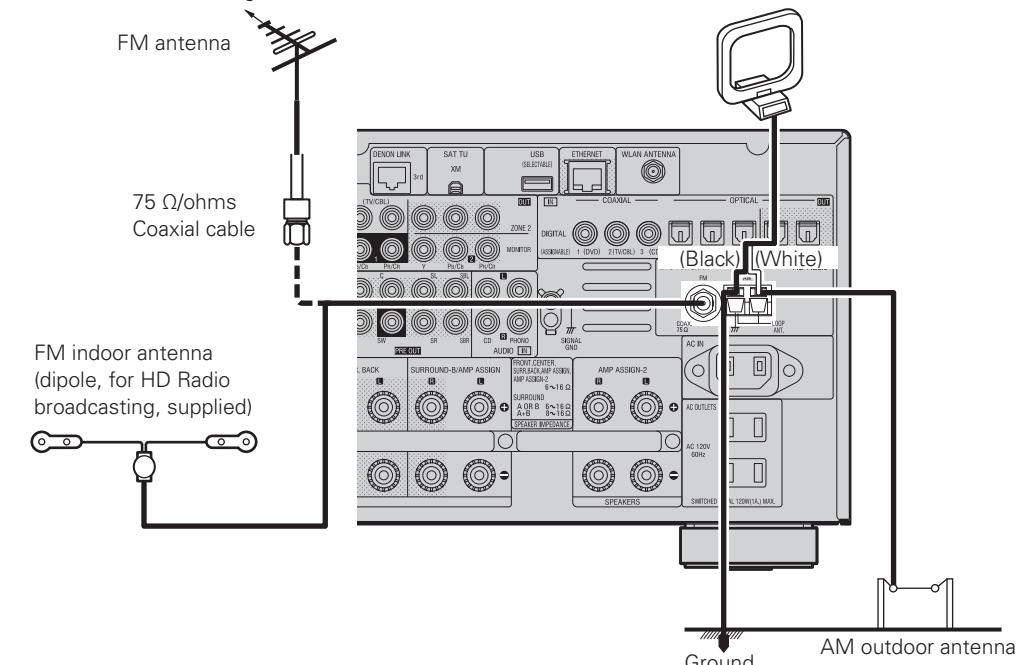
Connection of AM antennas

1. Push the lever.	2. Insert the conductor.	3. Return the lever.

NOTE

• Do not connect two FM antennas simultaneously.
• Even if an external AM antenna is used, do not disconnect the AM loop antenna.
• Make sure the AM loop antenna lead terminals do not touch metal parts of the panel.

Network Audio

[Wired LAN]

Computer

Modem

Internet

To WAN side

To LAN port

To LAN port

LAN port/Ethernet connector

Router

DENON LINK SAT TU XM USB (SELECTABLE) ETHERNET WLAN ANTENNA
3rd
(TV/CBL) OUT IN COAXIAL OPTICAL OUT
ZONE 2 DIGITAL

[Wireless LAN]

Computer

Modem

Internet

To WAN side

Rod antenna (supplied)

Router with access point

Turn clockwise.

DENON LINK SAT TU XM USB (SELECTABLE) ETHERNET WLAN ANTE
3rd
(TV/CBL) OUT IN COAXIAL
ZONE 2 DIGITAL

Required system

❏ **Broadband Internet connection**

A broadband line connection to the Internet is required in order to use the AVR-4308CI's Internet radio function and firmware update.

❏ **Modem**

This is a device that is connected to the broadband line to communicate with the Internet. Some are integrated with the router.

❏ **Router**

• When using the AVR-4308CI, we recommend you use a router equipped with the following functions:
  · Built-in DHCP (Dynamic Host Configuration Protocol) server
    This function automatically assigns IP addresses on the LAN.
  · Built-in 100 BASE-TX switch
    When connecting multiple devices, we recommend a switching hub with a speed of 100 Mbps or greater.
• When using with a wireless LAN, prepare a broadband router with built-in access point.

❏ **Ethernet cable (CAT-5 or greater recommended)**

Use for wired LAN.
• The AVR-4308CI does not come with an Ethernet cable.
• Some flat type Ethernet cables are easily affected by noise. We recommend using a normal type cable.
• If the sound is broken in an environment in which there is much power supply noise from electric products or in a noisy network environment, use a shielded type Ethernet cable.

❏ **Computer**

A computer with the following specifications is required to use a music server:
• OS
  Windows® XP Service Pack2, Windows Vista
• Software (Prepare one of the following.)
  · .NET Framework 1.1 and Windows Media Connect (Windows XP)
  · Windows Media Player ver.11
  · DLNA-compatible server software
• Internet browser
  Microsoft Internet Explorer 5.01 or later
• LAN port
• 300 MB or more free disk space

※ Free disk space is required to store music and video files. The following sizes are approximate.

Format	Bit rate	Per minute	Per hour
MP3 / WMA **MPEG-4 AAC**	128 kbps	Approx. 1 MB	Approx. 60 MB
	192 kbps	Approx. 1.5 MB	Approx. 90 MB
	256 kbps	Approx. 2 MB	Approx. 120 MB
	392 kbps	Approx. 3 MB	Approx. 180 MB
WAV (LPCM)	1400 kbps	Approx. 10 MB	Approx. 600 MB
FLAC	1080 kbps	Approx. 7.7 MB	Approx. 464 MB

For connections to the Internet, contact an ISP (Internet Service Provider) or a computer shop.

NOTE
• A contract with an ISP is required to connect to the Internet.
  No additional contract is needed if you already have a broadband connection to the Internet.
• The types of routers that can be used depend on the ISP. Contact an ISP or a computer shop for details.
• Depending on the server, video files may be displayed, but they cannot be played on the AVR-4308CI.

❏ **Others**
• If you have an Internet provider contract for a line on which network settings are made manually, make the settings at GUI menu "Manual Setup" – "Network Setup" (☞ page 32, 33).
• With the AVR-4308CI, it is possible to use the DHCP and Auto IP functions to make the network settings automatically.
• When using a broadband router (DHCP function), the AVR-4308CI sets the IP address, etc., automatically.
  When using the AVR-4308CI connected to a network with no DHCP function, make the settings for the IP address, etc., at GUI menu "Manual Setup" – "Network Setup" (☞ page 32, 33).
• The AVR-4308CI is not compatible with PPPoE. A PPPoE-compatible router is required if you have a contract for a line of the type with which the PPPoE is set.
• Depending on the ISP with which you have your contract, it may be necessary to make proxy server settings to use the Internet radio function. If you made proxy server settings on the computer to connect to the Internet, make the proxy server settings on the AVR-4308CI in the same way.

Multi Zone

ZONE2 or ZONE3 Pre-out Connections

• If another power amplifier or pre-main (integrated) amplifier is connected, the ZONE2 or ZONE3 pre-out (variable or fixed level) connectors can be used to play a different program source in ZONE2 or ZONE3 the same time (☞ page 70 ~ 74).
• When using a component video cable to connect the AVR-4308CI and input device, connect the ZONE2 monitor output to the component video connectors. When using an S-Video cable or a video cable, please connect the cable to the standard video connectors.
• The ZONE2 video out is only for ZONE2.

Monitor (ZONE2)
VIDEO
VIDEO IN
COMPONENT VIDEO IN
Y PB PR

Power amplifier (ZONE2 or ZONE3)
AUDIO
AUDIO IN
L R

AUX OUT
Infrared retransmitter
Input
Output
Infrared sensor
Extension jack for future use.
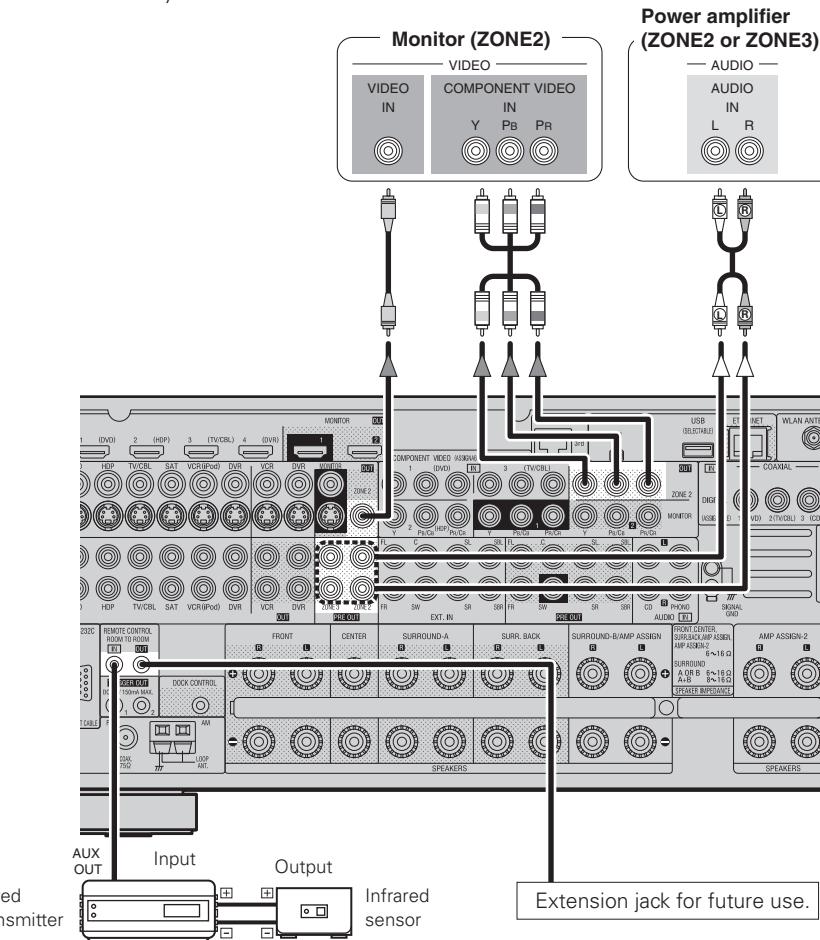
NOTE

• For the audio output, use high quality pin-plug cords so that no induction humming or noise is produced.
• For instructions on installing and operating separately sold devices, refer to the respective devices' operating instructions.
• To conduct multi-zone playback, see "Amp Assign / Multi-Zone Connections and Operations" (☞ page 70 ~ 74).

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External Controller
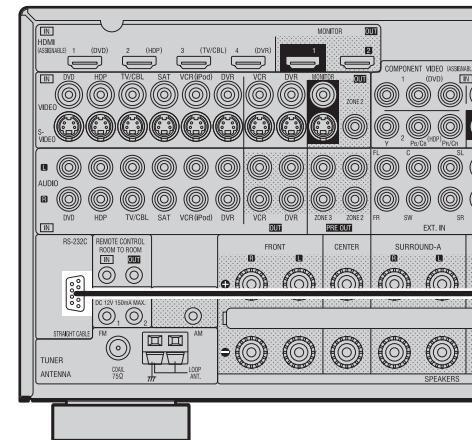
RS-232C connector

This connector is used for an external controller.

※ If you wish to control the AVR-4308CI from an external controller using the RS-232C connector, perform the operation below beforehand.
① Turn the AVR-4308CI's power.
② Turn off the AVR-4308CI's power from the external controller.
③ Check that the AVR-4308CI is in the standby mode.

• When using in combination with an RF Remote Controller (RC-7000CI, sold separately) or RF Remote Receiver (RC-7001RCI, sold separately) two-way communication with an RF Remote Controller is possible.
The AVR-4308CI's status information as well as iPod and Internet audio music files or video files can be browsed watching the RF Remote Controller's display. For details, refer to the operating instructions of the respective devices.
• When used in combination with an RF Remote Controller or RF Remote Receiver, make the settings at GUI menu "Manual Setup" – "Option Setup" – "2Way Remote" – "Used" (☞ page 36).
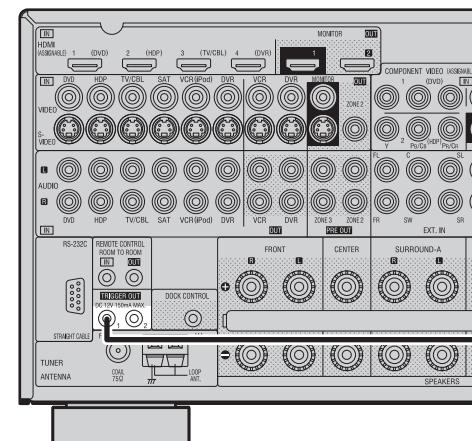
Trigger output jacks

The power of an external device equipped with a trigger input jack can be turned on and off in association with operations on the AVR-4308CI. For details, see GUI menu "Manual Setup" – "Option Setup" – "Trigger Out 1" or "Trigger Out 2" (☞ page 36).
• Output level: 150 mA/12 V
Check the trigger input conditions of the connected device.
• If the trigger input level of the connected device is higher than 150 mA/12 V and depending on the short-circuiting conditions, the AVR-4308CI's protection circuit may be activated, in which case "TRIGGER PROTECT" appears on the display. If this happens, turn off the AVR-4308CI's power and disconnect the connected device.

Getting Started

Connections

Setup

Playback

Remote Control

Multi-Zone

Information

Troubleshooting

Connecting the Power Cord

Wait until all connections have been completed before connecting the power cord.

Power cord
(included)

To household
power outlet
(AC 120 V, 60 Hz)

Connection to the AC outlets

• These outlets supply power to external audio devices.
• The power supplied from these outlets turns on and off together with the set's power switch.
• Audio equipment with a total power consumption of 120 W (1 A) can be connected.
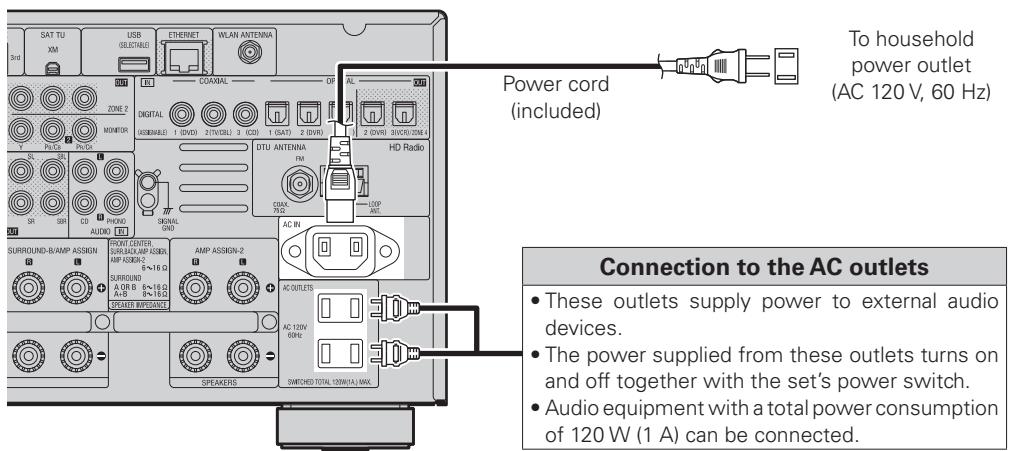
NOTE

• Insert the AC plugs securely. Incomplete connections could cause noise.
• Only use the AC outlets to plug in audio devices. Do not use them as power supplies for hairdryers or anything other than audio equipment.

Once Connections are Completed

Turning the Power On (☞ page 47)

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Getting Started
Connections
Setup
Playback
Remote Control
Multi-Zone
Information
Troubleshooting

GUI Menu Operations

With the AVR-4308CI, settings and operations for most functions can be performed by operating while looking at the GUI menus displayed on the monitor screen.

The GUI cannot be superimposed when xvYCC signals and component 1080p signal, computer's resolution (e.g.VGA) are input.

Example of the Display of the GUI Mark at a Title

Items for which this mark is indicated at the title can be operated from the GUI.
We recommend performing such operations from the GUI.

Auto Setup

GUI

Optimize settings for speakers in use.
The appropriate settings for the speakers you are using will be performed automatically.
Operate as instructed on the GUI.

This is the GUI icon for this setting item or for the menu series to which this item belongs.

Example of Display of Default Values

In lists of selectable items or adjustable ranges, the item surrounded by a border is the default value.

[Selectable items] 7.1 (B) 7.1 5.1

Examples of GUI Screen Displays

Some typical examples are described below.

Example: Browse Menu (Top Menu)

DENON

■ SOURCE SELECT

TUNER
PHONO
CD
DVD
HDP
TV/CBL

Select input source and make playback settings

Selected item name

List of subsequent items

Guidance text for item at cursor position
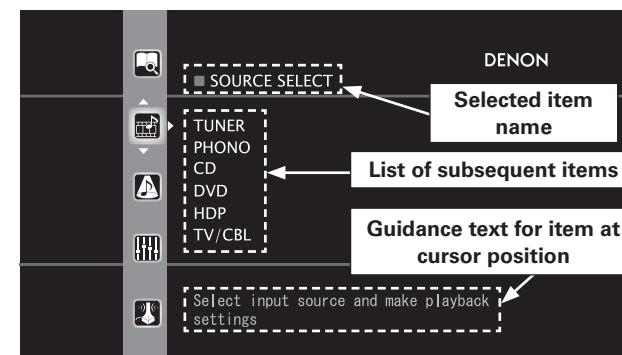
Example: Menus with Illustrations (Auto Setup)

Operation guidance text

Operation step indicators

Auto Setup AUDYSSEY   DENON

Step1 Speaker Detection
Please place the microphone at ear height at main listening position.

1 2 3 4 5

Illustration

Start
Config   7.1(B)

Amp Assign

◉ Enter   RETURN Cancel
Start Auto Setup and output test tone

Guidance text for item at cursor position

Operation button guidance
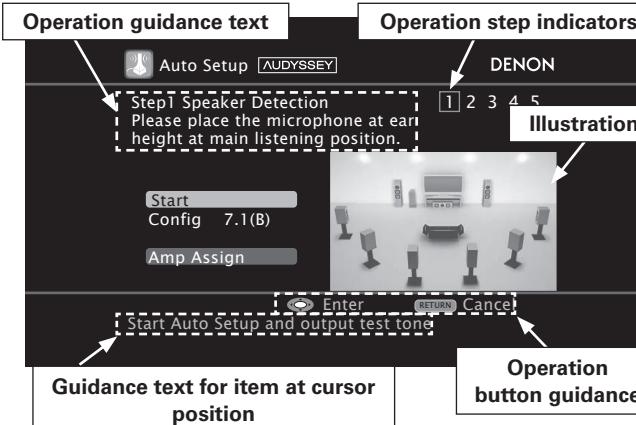
Cursor Position Display

❑ **Icon**

Switch the selected item

Switch to the next item

Selected item

Switch the selected item

❑ **List**

Selected item

Assign
Input Mode
Rename
Other

Switch to the next item

※ Switch the selected item using △▽.
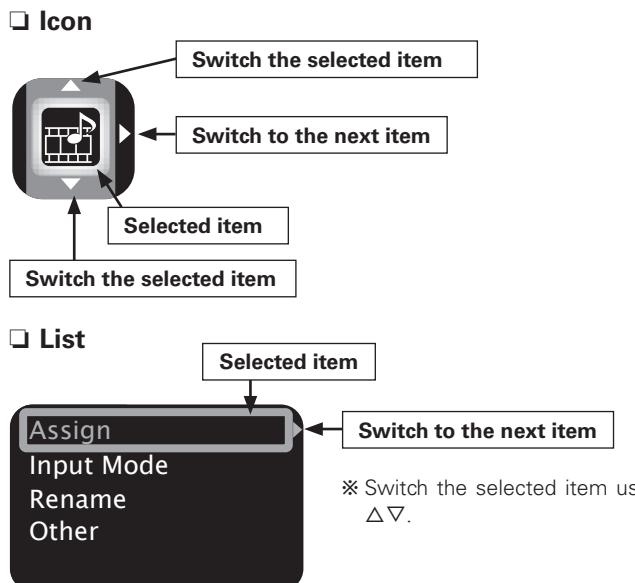
Operations

The same operation is possible on the main unit or remote control unit.

1 **Press the MENU button.**
The GUI menu is displayed.
※ To operate from the main remote control unit, be sure to set the remote control unit to the AMP mode.

2 **Press the △ ▽ ▷ button to select the menu to be set or operated.**
※ To return to the previous item, press the ◁ or RETURN button.

3 **Press the ENTER button to enter the setting.**

4 **Press the MENU button to finish.**

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GUI Menu Map

Information
(☞ page 45, 46)

❏ **Status**
- **MAIN ZONE**
- **ZONE2/3/4**

❏ **Audio Input Signal**
❏ **HDMI Information**
❏ **Auto Surround Mode**
❏ **Quick Select**
❏ **Preset Station**

Parameter
(☞ page 42 ~ 45)

❏ **Audio**
- **Surround Parameters**
  - · **Mode**
  - · **Cinema EQ**
  - · **DRC**
  - · **D.COMP**
  - · **LFE**
  - · **Center Image**
  - · **Panorama**
  - · **Dimension**
  - · **Center Width**
  - · **Delay Time**
  - · **Effect**
  - · **Effect Level**
  - · **Room Size**
  - · **AFDM**
  - · **SB CH Out**
  - · **Subwoofer Att.**
  - · **Subwoofer**
  - · **Default**
- **Tone**
  - · **Tone Defeat**
  - · **Bass**
  - · **Treble**
- **Room EQ**
- **RESTORER**
- **Night Mode**
- **Audio Delay**

❏ **Picture Adjust**
- **Contrast**
- **Brightness**
- **Chroma Level**
- **Hue**

Source Select (☞ page 37 ~ 41)

❏ **TUNER (FM/AM)**
- **Play**
- **Auto Preset**
- **Preset Skip**
- **Preset Name**
- **Input Mode**
- **Rename**
- **Other**
  - · **Video Select**
  - · **Source Level**

❏ **PHONO**
- **Input Mode**
- **Rename**
- **Other**
  - · **Video Select**
  - · **Source Level**

❏ **CD, DVD, HDP, TV/CBL, SAT, VCR, DVR, V.AUX**
- **Play (iPod)**
- **Playback Mode (iPod)**
- **Assign**
- **Input Mode**
- **Rename**
- **Other**
  - · **Video Select**
  - · **Video Convert** (Excluding CDs)
  - · **Source Level**

❏ **NET/USB**
- **Play**
- **Playback Mode**
- **Still Picture**
- **Input Mode**
- **Rename**
- **Other**
  - · **Video Select**
  - · **Source Level**

❏ **XM**
- **Play**
- **Preset Skip**
- **Antenna Aiming**
- **Input Mode**
- **Rename**
- **Other**
  - · **Video Select**
  - · **Source Level**

❏ **HD Radio**
- **Play**
- **Auto Preset**
- **Preset Skip**
- **Preset Name**
- **Input Mode**
- **Rename**
- **Other**
  - · **Video Select**
  - · **Source Level**

Surround Mode
(☞ page 41, 42)

❏ STEREO
❏ DIRECT
❏ STANDARD
❏ DOLBY PLIIx, DOLBY PLII or DOLBY PL)
❏ DTS NEO:6
❏ neural
❏ 7CH STEREO
❏ WIDE SCREEN
❏ SUPER STADIUM
❏ ROCK ARENA
❏ JAZZ CLUB
❏ CLASSIC CONCERT
❏ MONO MOVIE
❏ VIDEO GAME
❏ MATRIX
❏ VIRTUAL

Auto Setup (☞ page 25 ~ 27)

❏ **Auto Setup**
- **STEP1: Speaker Detect**
- **STEP2: Measurements**
- **STEP3: Calculation**
- **STEP4: Check**
- **STEP5: Store**

❏ **Option**
- **Room EQ**
- **Direct Mode**
- **Mic Select**

❏ **Parameter**
- **Speaker Configuration Check**
- **Distance Check**
- **Channel Level Check**
- **Crossover Check**
- **EQ Check**
- **Restore**

Manual Setup (☞ page 28 ~ 37)

❏ **Speaker Setup** (☞ page 28 ~30)
- **Speaker Configuration**
- **Subwoofer Mode**
- **Distance**
- **Channel Level**
- **Crossover Frequency**
- **Surround Speaker**

❏ **HDMI Setup** (☞ page 30)
- **i/p Scaler**
- **Resolution**
- **Progressive Mode**
- **Aspect**
- **Color Space**
- **RGB Range**
- **Auto Lip Sync**
- **Audio**
- **Monitor Out**

❏ **Audio Setup** (☞ page 31, 32)
- **EXT. IN Setup**
  - · **Surround Speaker**
  - · **Subwoofer Level**
- **2ch Direct/Stereo**
- **Downmix Option**
- **Auto Surround**
- **Manual EQ**

❏ **Network Setup** (☞ page 32 ~ 34)
- **Network Setup**
- **Other**
  - · **Power Saving**
  - · **Character**
  - · **PC Language**
- **Network Information**

❏ **Zone Setup** (☞ page 34)
- **ZONE2**
  - · **Bass**
  - · **Treble**
  - · **HPF**
  - · **Lch Level**
  - · **Rch Level**
  - · **Channel**
  - · **Volume Level**
  - · **Volume Limit**
  - · **Power On Level**
  - · **Mute Level**
- **ZONE3**
  - · **Bass**
  - · **Treble**
  - · **HPF**
  - · **Lch Level**
  - · **Rch Level**
  - · **Channel**
  - · **Volume Level**
  - · **Volume Limit**
  - · **Power On Level**
  - · **Mute Level**

❏ **Option Setup** (☞ page 35 ~ 37)
- **Amp Assign**
- **Volume Control**
  - · **Volume Limit**
  - · **Power On Level**
  - · **Mute Level**
- **Source Delete**
- **GUI**
  - · **Screensaver**
  - · **Wall Paper**
  - · **Format**
  - · **Text**
  - · **Master Volume**
  - · **NET/USB**
  - · **iPod**
  - · **Tuner**
- **Quick Select Name**
- **Trigger Out 1**
- **Trigger Out 2**
- **Digital Out**
- **Remote ID**
- **2Way Remote**
- **Dimmer**
- **Setup Lock**
- **Maintenance Mode**
- **Firmware Update**

❏ **Language** (☞ page 37)

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Auto Setup

- This procedure lets you measure the acoustic properties of your speakers and listening room and make the optimum settings automatically.
- This function provides the optimum listening environment for all listening positions in a home theater where several people view or listen to the video or audio source simultaneously.

  The measurements are performed by moving the setup microphone successively to the different positions where the family members sit within the listening area surrounded by the speakers, as shown in **Example** ①. For better results, we recommend making measurements in 6 or more positions.

  Even if the home theater is only used by a small number of persons as shown in **Example** ②, measuring at points around the listening position results in more effective correction.

Example ①　　　　　　**Example** ②
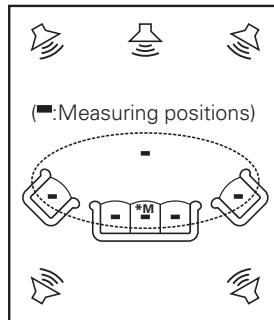
(■:Measuring positions)
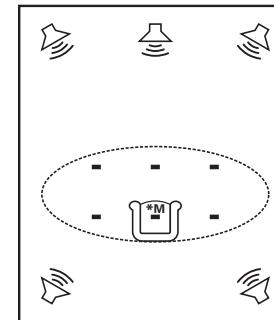
About the main listening position (*M)

The main listening position refers to the center of the listening position, or the place where you would sit to watch or listen when alone.

This position is used as the basis when measuring the distance of the speakers.

✎

To set the listening environment manually to suit your tastes, see page 28 ~ 30.

Preparations

1 **Connect the included setup microphone to the SETUP MIC jack on the main unit.**

The auto setup screen appears automatically.
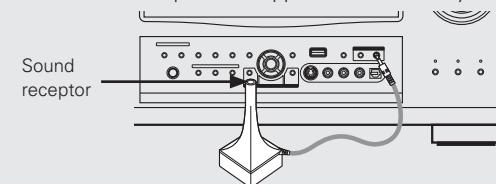
Sound receptor

2 **Mount the setup microphone on a camera tripod, etc., and set it at the main listening position, with the sound receptor pointing towards the ceiling.**
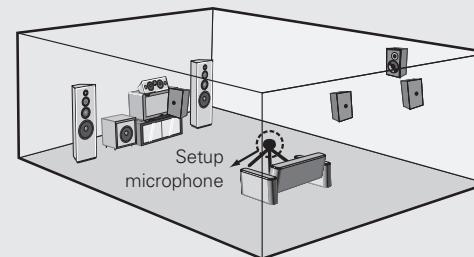
Setup microphone

※ Adjust the height of the setup microphone's sound receptor so that it is at the height of the ears when listening.

✎

When using a subwoofer with a setting function, make the following settings before starting the auto setup procedure:

- Volume: "Center"
- Crossover frequency: "Maximum"
- Low pass filter: "Off"
- Standby mode: "Off"

NOTE

- Do not disconnect the setup microphone until the auto setup procedure is completed.
- When using headphones, unplug the headphones before starting the auto setup procedure.

Auto Setup

Optimize settings for speakers in use.

GUI

● Menu tree ●

Auto Setup

    1 Auto Setup

    2 Option

    3 Parameter

1 Auto Setup

The settings are performed automatically.

〖Auto setup flow〗

STEP1: Speaker Detect

⬇

STEP2: Measurements (2 to 8 positions)

⬇

STEP3: Calculation

⬇

STEP4: Check

⬇

STEP5: Store

Start

Start auto setup and output the test tone.
Set as desired before starting the auto setup procedure.

✎

If an error message appears during the measurements, check "Error messages", take the necessary countermeasures, then redo the measurements (☞ page 27).

Configuration

The speaker system to be measured can be selected ahead of time here.

[Selectable items] **7.1 (B)** **7.1** **5.1**

✎

Setting the speaker configuration reduces the time required to analyze the speakers during the auto setup procedure.

Amp Assign

Advanced setting : changes power amplifier assignment.

NOTE

The items selectable at "Config." differ according to the "Amp Assign" settings.

STEP1 : Speaker Detect

The speaker connection status and the speaker polarities are detected at the main listening position. At this time, the listening environment with respect to the main listening position ("Speaker size check", "Distance correction", "Channel level adjustment", "Crossover frequency check" and "Room EQ correction") is measured automatically at the main listening position.
Once the measurements are completed, the results of the speaker connection are displayed.

NOTE

- Loud test tones are output during the measurements. Be careful when measuring at night or when there are small children nearby.
- Do not stand between the speakers and setup microphone or allow obstacles between them while the measurements are being made. Obstacles will make it impossible to measure correctly.
- Keep as quiet as possible during measurements. Loud sounds in the area will make it impossible to measure correctly.
- Operating the **MASTER VOLUME** knob on the main unit or the **VOL +/−** buttons on the remote control unit during the measurements will cancel the measurements.
- Do not change the speaker connections or subwoofer volume after "STEP1".

STEP2: Measurements

The listening environment with respect to the listening position ("Speaker size check", "Crossover Frequency check" and "Room EQ correction") is measured automatically at positions 2 to 8.
Once a measurement is made, move the setup microphone to the next position.

✎

Measure a total of at least 6 positions (main listening position and at least 5 other surrounding positions). Measurements can be completed even if only taken in 5 positions, but for better results we recommend taking them in **6 or more positions**. (Measurements can be taken in a maximum of 8 positions.)

STEP3: Calculation

When "Calculate" is selected at "STEP2", the speaker system is analyzed automatically.

✎

The time required for this analysis depends on the number of speakers connected. The more the number of speakers, the longer the time required for analysis.

STEP4: Check

Once the auto setup procedure is completed, a measuring result checking screen appears.
Select any item whose measuring results you want to check and check the results.

✎

Values that are different from the actual distance may be set for speakers with built-in filters (subwoofers, etc.).

STEP5: Store

The auto setup measurement results are stored.

NOTE

Do not turn the power off while the settings are being stored in the memory.

Error Messages

If the auto setup procedure could not be completed due to speaker installation, the measuring environment, etc., an error message is displayed. If this happens, check the relevant items, be sure to take the necessary measures, then perform the auto setup procedure over again.

Error messages (examples)	Cause	Measures
No microphone or speaker	• Included setup microphone is not connected. • Not all speakers could be detected.	• Connect the included setup microphone to the **SETUP MIC** jack on the main unit. • Check the speaker connections.
Ambient noise is too high or Level is too low	• Too much noise in the room for accurate measurements to be made. • Speaker or subwoofer sound is too low for accurate measurements to be made.	• Either turn off any device generating noise or move it away. • Try again when the surroundings are quiet. • Check the speaker installation and the direction in which the speakers are facing. • Adjust the subwoofer's volume.
None	• Displayed speaker could not be detected. · The front L and front R speakers were not properly detected. · Only one channel of the surround (A) and surround (B) speakers was detected. · Sound was output from the R channel when only one surround back speaker was connected. · The surround back or the surround (B) speaker was detected, but the surround (A) speaker was not detected.	• Check the connections of the displayed speaker.
Phase	• Displayed speaker connected with the polarities reversed.	• Check the polarities of the displayed speaker. • For some speakers, this error message may be displayed even if the speaker is properly connected. In this case, select "Skip".

Select "Retry" to make the measurements again.

NOTE Be sure to turn the power off before checking the speaker connections.

2 Option

Select settings for room EQ, mic, etc.

Room EQ

Select room EQ setting method.

[Selectable items] All Assign

Direct Mode

Select room EQ use for DIRECT or PURE DIRECT mode.

[Selectable items] ON OFF

Mic Select

Select the microphone type if not using supplied mic.
The microphone connected to V.AUX Lch is used.

[Selectable items] Mic V.AUX L

3 Parameter Check

Check auto setup measurement results.
This is displayed after the auto setup procedure is completed.

[Items to be checked] Spkr Config Check Distance Check Ch. Level Check Crossover Check EQ Check

The auto setup results can be reset when "Restore" is selected.

Manual Setup

Make detail settings for various parameters.

Speaker Setup

GUI

Use this procedure to set the speakers manually or if you wish to change the settings made with the auto setup procedure.

● **Menu tree** ●

Manual Setup

Speaker Setup

1 **Speaker Configuration**
2 **Subwoofer Mode**
3 **Distance**
4 **Channel Level**
5 **Crossover Frequency**
6 **Surround Speaker**

1 Speaker Configuration

Select speaker configuration and size.
(bass reproduction capability)

Front

Select front speaker size.

[Selectable items] | Large | Small |

Center

Select center speaker use and size.

[Selectable items] | Large | Small | None |

Subwoofer

Select subwoofer use.

[Selectable items] | Yes | No |

Surround A

Select surround speakers A use and size.

[Selectable items] | Large | Small | None |

Surround B

Select surround speakers B use and size.

[Selectable items] | Large | Small | None |

Surround Back

Select surround back speaker use and size.

[Selectable items] | Large | Small | None | 2spkrs | 1spkr |

✎

• Select "Large" or "Small" not according to the physical size of the speaker but according to the low frequency reproduction capabilities based on the frequency set at "Crossover Frequency" (☞ page 29).
• When "Front" is set to "Small", "Subwoofer" is automatically set to "Yes".
• If "Subwoofer" is set to "No", "Front" is automatically set to "Large".
• If "Surround A" is set to "None", "Surround B" and "Surround Back" are automatically set to "None".
• When using just one surround back speaker, connect it to the left channel (SBL).

2 Subwoofer Mode

Select low range signal to be reproduced by subwoofer.

[Selectable items] | LFE | LFE+Main |

✎

• This can be set when GUI menu "Speaker Configuration" – "Subwoofer" is set to "Yes".
• Play music or a movie source and select the mode offering the strongest bass.
• Select "LFE+Main" if you want the bass signals to always be produced from the subwoofer.

---

3 Distance

Set distance from listening position to speakers.
Before making the settings, measure the distance from the listening position to the different speakers.

Feet / Meters

Select unit for distance.

Step

Select step. (smallest distance)

[Selectable items] | 1ft | / | 0.1ft | *1 / | 0.1m | / | 0.01m | *2

＊1: Can be selected when "Feet" is set.
＊2: Can be selected when "Meters" is set.

Default

Resets the settings to the default values.

Distance measurement

Select the speaker you want to set, then set the distance.
Set the value closest to the measured distance.

[Variable range] | 0.0ft ~ 60.0ft | *1 / | 0.00m ~ 18.00m | *2

＊1: Display when "Feet" is set.
＊2: Display when "Meters" is set.

NOTE

Set the distance between the listening position and the various speakers to no more than 20.0 ft (6.00 meters).

z Channel Level

Adjust channel levels to obtain equal volume from all speakers.

Mode

Select test tone playback method.

[Selectable items] Auto   Manual

Surround

Select surround speaker from which test tone is output.

[Selectable items] A   B   A+B

Start

Output test tone.

[Variable range] −12dB ~ 0dB ~ +12dB

☞ Operating from the main remote control unit

Adjusting with the main remote control unit using the test tones is only possible in the "Auto" mode and only effective in the STANDARD mode. The adjusted levels for the different modes are automatically stored in the memory.

[Adjusting using test tones]
① Press the **TEST** button.
   Test tones are output from the various speakers.
② Use the ◁ ▷ button to adjust so that the volume is equal for all speakers.
③ When the adjustments are completed, press the **TEST** button again.

✎

• When the GUI menu "Speaker Configuration" – "Surround Back" setting (☞page 28) is set to "1spkr", the surround back speaker display is set to "Surround Back".
• Speakers set to "None" in the "Speaker Configuration" settings are not displayed.
• "Surround" can be set when GUI menu "Speaker Configuration" – "Surround A" or "Surround B" is set to "Large" or "Small" (☞page 28).
• When using surround speakers, be sure to adjust the volume of the different speakers.
• When "Channel Level" is adjusted, the adjusted values are set for all the surround modes. To adjust the channel level separately for the different surround modes, use the operation see page 59.

Default

Resets the settings to the default values.

x Crossover Frequency

Select crossover frequency from which subwoofer handles low range signal.

[Selectable items]

40Hz   60Hz   80Hz   90Hz   100Hz   110Hz

120Hz   150Hz   200Hz   250Hz

Only the portion of the bass sound of the various speakers output from the subwoofer that has a frequency below the frequency set here is output.
Set this according to the low frequency reproduction capabilities of the speakers you are using.

Advanced :

Set the crossover frequency separately for the different speakers.

✎

• The "Crossover Frequency" can be set when there are speakers that have been set to "Small" at GUI menu "Speaker Setup" – "Speaker Configuration" or when "Subwoofer" is set to "Yes" (☞page 28).
• If GUI menu "Speaker Configuration" – "Subwoofer Mode" (☞page 28) is set to "LFE", speakers set to "Small" at "Speaker Configuration" can be set. If set to "LFE+Main", this can be set regardless of the size of the speaker.
• For speakers set to "Small", sound below the crossover frequency is cut from the sound output. The cut bass sound is output from the subwoofer or front speakers.
• Always set the crossover frequency to "80 Hz". When using small speakers, however, we recommend setting the crossover frequency to a higher frequency.

c Surround Speaker

Select surround speakers to use for each surround mode.

[Selectable items] A   B   A+B

☞ Operating from the main remote control unit

Press the **SPKR** button.

Surround A ⟶ Surround B ⟶ Surround A+B ⟶ (loops back to Surround A)

✎

• This can be set when GUI menu "Speaker Configuration" - "Surround A" and "Surround B" are used (☞page 28).
• When using the pre-out connectors, select and use either "Surround A" or "Surround B".
• Make the surround speaker settings when the input mode is set to "EXT. IN" at GUI menu "Manual Setup" – "Audio Setup" – "EXT. IN Setup" (☞page 31).

HDMI Setup
GUI

Make settings for HDMI video/audio output.

● Menu tree ●

Manual Setup

  HDMI Setup

   1 i/p Scaler
   2 Resolution
   3 Progressive Mode
   4 Aspect
   5 Color Space
   6 RGB Range
   7 Auto Lip Sync
   8 Audio
   9 Monitor Out

1 i/p Scaler
Make settings for i/p scaler function.

[Selectable items]   A to H   A to H & H to H   OFF

🖉

A to H & H to H setting
• Deep color (10 bit/12 bit) signals are converted into 8-bit signals.
• The i/p scaler function does not work if xvYCC or computer's resolution signals are input.

2 Resolution
Make settings for resolution of HDMI video output signal.

[Selectable items]   Auto   480p/576p   1080i   720p   1080p

🖉

This can be set when "i/p Scaler" is set to anything other than "OFF".

NOTE

• It is not possible to convert "1080i" signals into "720p" format.
• It is not possible to convert "720p" signals into "1080i" format.

3 Progressive Mode
Select optimum progressive mode for video material.

[Selectable items]   Auto   Video1   Video2

🖉

This can be set when "i/p Scaler" is set to anything other than "OFF".

4 Aspect
This sets the aspect ratio when outputting 480i/576i or 480p/576p input signals from the HDMI output connector.

[Selectable items]   Full   Normal

🖉

This can be set when "i/p Scaler" is set to anything other than "OFF".

5 Color Space
Make settings for output color space.

[Selectable items]   YCbCr   RGB

🖉

When connected to a monitor with a DVI-D connector (HDCP compatible) using an HDMI/DVI converter cable, the signals are output in RGB format, regardless of this setting.

6 RGB Range
Make settings for RGB output range.

[Selectable items]   Normal   Enhanced

7 Auto Lip Sync
Automatic compensation for timing shift in audio and video output.

[Selectable items]   ON   OFF

8 Audio
Select HDMI audio output device.

[Selectable items]   Amp   TV

9 Monitor Out
Make settings for HDMI monitor output.

[Selectable items]   Auto   Monitor 1   Monitor 2

☞ Operating from the main remote control unit

Press the **M.SEL** button.

→ Auto → Monitor 1 → Monitor 2 → (loop back to Auto)

🖉

• When "Monitor Out" is set to "Auto", connections with the MONITOR 1 or MONITOR 2 connectors are recognized automatically.
• If both the MONITOR 1 and 2 connectors are connected and "Resolution" is set to "Auto", the signals are output with a resolution compatible with both monitors.
• If "Resolution" is set to something other than "Auto", check the resolutions with which your monitor is compatible at GUI menu "Information" – "HDMI Information" – "Monitor 1" and "Monitor 2" and set accordingly (☞ page 46).

Audio Setup

GUI

Make settings for audio playback.

● Menu tree ●

Manual Setup

Audio Setup

1 EXT.IN Setup

2 2ch Direct/Stereo

3 Downmix Option

4 Auto Surround Mode

5 Manual EQ

1 EXT. IN Setup

Make speaker settings for EXT. IN mode playback.

Surround Speaker

Select the surround speakers to use.

[Selectable items]   A   B   A+B

Subwoofer Level

Set the subwoofer level for playback.
Select according to the player in use.

[Selectable items]   0dB   +5dB   +10dB   +15dB

🖉

We recommend setting to "+15 dB".

2 2ch Direct/Stereo

Make speaker settings for 2-channel mode playback.

Setting

To change the settings, select "Custom".

[Selectable items]   Basic   Custom

Front

Select front speaker size.

[Selectable items]   Large   Small

Subwoofer

Select subwoofer use.

[Selectable items]   Yes   No

Subwoofer Mode

Select low range signal to be reproduced by subwoofer.

[Selectable items]   LFE   LFE+Main

Crossover

Select crossover frequency from which subwoofer handles low range signal.

[Selectable items]   40Hz   60Hz   80Hz   90Hz   100Hz
110Hz   120Hz   150Hz   200Hz   250Hz

Distance FL

Set distance from listening position to front left speaker.

[Variable range]   0.0ft ~ 60.0ft / 0.00m ~ 18.00m

Distance FR

Set distance from listening position to front right speaker.

[Variable range]   0.0ft ~ 60.0ft / 0.00m ~ 18.00m

3 Downmix Option

Set dynamic range for downmix playback of Dolby Digital sources.

[Selectable items]   ON   OFF

🖉

• Set this to "ON" if the sound from the front speakers seems distorted.
• When not using the center speaker or surround speakers, the playback sound is down-mixed and output from the front speakers.

4 Auto Surround Mode

Make setting for memorizing surround mode setting for each input signal type.

[Selectable items]   ON   OFF

🖉

• The auto surround mode function lets you store in the memory the surround mode last used for playing the four types of input signals listed below.
  ① Analog and PCM 2-channel signals
  ② Dolby Digital and DTS 2-channel signals
  ③ Dolby Digital and DTS multi-channel signals
  ④ Multi-channel signals other than Dolby Digital and DTS (PCM, DSD, etc.)
• When playing in the PURE DIRECT mode, the surround mode does not change even if the input signal is changed.

31

5 **Manual EQ**

Adjust tonal quality for each speaker using graphic equalizer.

Adjust CH

Select speaker adjustment method.

[Selectable items] | Each | L/R | All

Manual EQ

Select the speaker and frequency band and adjust the level.

[Selectable items] | 63 | 125 | 250 | 500 | 1k | 2k | 4k | 8k | 16k

[Variable range] | –20dB ~ +6dB

Curve Copy

Copy "Flat" curve from Room EQ.

[Selectable items] | Yes | No

✎

"Curve Copy" is displayed after the auto setup procedure has been performed.

Default

Resets the settings to the default values.

Network Setup

Make network settings.

GUI

🌐

● **Menu tree** ●

Manual Setup

 Network Setup

  Network Setup

  Other

  Network Information

---

1 **Network Setup**

Make settings for wired or wireless LAN.

Wired LAN

Make settings for wired LAN.

```
Turn on the AVR-4308CI's power.
          │
          │  If a Ethernet cable is connected
          ▼
The mode automatically switches to "Wired".
          │
   ┌──────┴──────────────────────┐
   ▼                              ▼
To enter the IP address       To acquire the IP address automatically
manually                      using the DHCP function
   │                              │
   ▼                              │
At the GUI menu "Manual Setup"    │
– "Network Setup" – "Detail"      │
setting, set "DHCP" to "OFF"      │
and enter the IP address,         │
subnet mask, default gateway,     │
primary DNS and secondary DNS.    │
   │                              │
   ▼                              │
To connect via proxy server   To not pass through the proxy server
   │                              │
This setting is required when     │
the network is established via    │
proxy servers.                    │
   ▼                              │
At the GUI menu "Manual Setup"    │
– "Network Setup" – "Proxy"       │
setting, set "Proxy" to "ON"      │
and enter the address or domain   │
name and port numbers.            │
   │                              │
   └──────────┬───────────────────┘
              ▼
    This completes the setting.
```

✎ Recheck the connections and settings if you cannot connect to the Internet (☞page 20).

NOTE Knowledge about networks is required to make the IP address and proxy settings. For details, consult a network administrator.

Wireless LAN settings

Make settings for wireless LAN.

Turn on the AVR-4308CI's power.

If no Ethernet cable is connected

The mode automatically switches to "Wireless".

Display GUI menu "Manual Setup" – "Network Setup".

Access point settings

To search for the network automatically

To set manually ∗

Search

"Detail" setting

① Input the SSID.
② If there is security, select the encryption method.
③ Input the encryption key.
④ If "WEP" was selected in step ②, select the default key.
Normally select "1".

If searching is possible, the access points are displayed.

If searching is not possible

Select the access point to be set.

Make the SSID setting at "Manual".

Without security

With security

For a encryption key and WEP, also input the default key.

Connection (continued on right page)

Connection

To acquire the IP address automatically using the DHCP function

To enter the IP address manually

Display GUI menu "Network Setup"

At the GUI menu "Manual Setup" – "Network Setup" – "Detail" setting, set "DHCP" to "OFF" and enter the IP address, subnet mask, default gateway, primary DNS and secondary DNS.

To not pass through the proxy server

To connect via proxy server

This setting is required when the network is established via proxy servers.

At the GUI menu "Manual Setup" – "Network Setup" – "Proxy" setting, set "Proxy" to "ON" and enter the address or domain name and port numbers.

This completes the setting.

∗ : This is the flow for infrastructure type communications. For ad-hoc communications, set "Mode" at the "Detail" settings to "Ad-hoc".

NOTE Knowledge about networks is required to make the IP address and proxy settings. For details, consult a network administrator.

v **Other**

Make setting for amp power save mode and computer language environment.

Power Saving

Make setting for power saving when not connected to network.

[Selectable items] ON OFF

Character

Set the character code type of the MP3 ID3-Tag played by USB.

[Selectable items] AUTO Latin Japanese

✎

If the characters are not properly displayed when set to "AUTO", set to "Latin" or "Japanese".

PC Language

Select computer environment language.

[Selectable items] ara chi (smpl) chi (trad) cze dan
dut eng fin fre ger gre heb
hun ita jpn kor nor pol por
por (BR) rus spa swe tur

w **Network Information**

Display network information.

[Items to be checked] Wired or Wireless SSID
DHCP= ON or OFF IP Address
MAC Address

Zone Setup GUI

Make settings for audio playback in a multi-zone system.

● **Menu tree** ●

Manual Setup

└ Zone Setup

　└ 1 ZONE2

　└ 2 ZONE3

1 **ZONE2**

Make settings for audio playback in a ZONE2 system.

2 **ZONE3**

Make settings for audio playback in a ZONE3 system.

Bass

Adjust low frequency range (bass).

[Variable range] –10dB ~ 0dB ~ +10dB

Treble

Adjust high frequency range (treble).

[Variable range] –10dB ~ 0dB ~ +10dB

HPF

When using speakers that cannot satisfactorily play low frequencies, distortion of the bass sound can be reduced by setting "HPF" to "ON".

[Selectable items] ON OFF

Lch Level

Adjust the left channel output level.

[Variable range] –12dB ~ 0dB ~ +12dB

Rch Level

Adjust the right channel output level.

[Variable range] –12dB ~ 0dB ~ +12dB

Channel

Switch between stereo and mono output.

[Selectable items] Stereo Mono

✎

When GUI menu "Manual Setup" – "Option Setup" – "Amp Assign" (☞page 35) is set to "ZONE (MONO)", "Bi-Wiring & ZONE (MONO)" or "ZONE2/3 (MONO)", the "Channel" setting is automatically set to "Mono".

Volume Level

Adjust the main volume level.

[Selectable items] Variable –40dB 0dB

✎

"Variable" is displayed when a power amplifier is assigned to the ZONE2 output channel at GUI menu "Manual Setup" – "Option Setup" – "Amp Assign" (☞page 35).

Volume Limit

Make a setting for maximum volume.

[Selectable items] OFF –20dB –10dB 0dB

Power On Level

Define the volume setting that is active when the power is turned on.

[Selectable items] Last – – – –70dB ~ +18dB

Mute Level

Set the amount of attenuation when muting is on.

[Selectable items] Full –40dB –20dB

Option Setup

GUI

Make various other settings.

● **Menu tree** ●

Manual Setup

Option Setup

1	**Amp Assign**
2	**Volume Control**
3	**Source Delete**
4	**GUI**
5	**Quick Select Name**
6	**Trigger Out 1**
7	**Trigger Out 2**
8	**Digital Out**
9	**Remote ID**
10	**2Way Remote**
11	**Dimmer**
12	**Setup Lock**
13	**Maintenance Mode**
14	**Firmware Update**

1 Amp Assign

Define how the amplifier for the surround and/or surround back speaker channels is used.

The places where the surround amplifier and surround back amplifier are used can be set freely according to the usage environment. This makes it possible to output sound to rooms other than the room (the MAIN ZONE) where surround playback is performed (multi-zone playback) or play the sound with high quality using the front speakers (bi-wiring/bi-amp connections).

[Selectable items]

| 7.1CH | ZONE2 | ZONE3 | ZONE(MONO) | Bi-Wiring |

| Bi & ZONE2 | Bi & ZONE3 | Bi & ZONE(MONO) | Bi-Amp |

| ZONE2/3 | ZONE2/3(MONO) | 2CH Bi-Wiring | 2CH Bi-Amp |

✎

For details, see "Amp Assign / Multi Zone Connections and Operations" (☞page 70 ~ 72).

2 Volume Control

Set the main zone volume setting.

Volume Limit

Make a setting for maximum volume.

[Selectable items] | OFF | –20dB | –10dB | 0dB |

Power On Level

This sets the volume set when the main zone's power is turned on.

[Selectable items] | Last | – – – | –80dB ~ +18dB |

Mute Level

This sets the amount of attenuation of the volume when the mute mode is set in the main zone.

[Selectable items] | Full | –40dB | –20dB |

3 Source Delete

Remove input sources that are not used from the display.

[Selectable items] | ON | Delete |

NOTE

• Input sources being used in the various zones cannot be deleted.
• Input sources set to "Delete" cannot be selected from GUI menu "Source Select" or using the **SOURCE SELECT** knob on the main unit or **SOURCE SELECT** button on the remote control unit.

4 GUI

Make GUI related settings.

Screensaver

Make screensaver settings.
Use the screensaver to prevent burn-in on the monitor screen.
When set to "ON", the screensaver is activated if there is no activity for about 3 minutes.

[Selectable items] | ON | OFF |

Wall Paper

Change the GUI background.

[Selectable items] | Picture | Black | Gray | Blue |

Format

Select the video output signal format to match the monitor.

[Selectable items] | NTSC | PAL |

NOTE

When a format other than the video format of the connected monitor is set, the picture will not be displayed properly. Use the procedure described below to change the video format.

👆 **Operating from the main unit**

① Press and hold the **STATUS** and **RETURN** buttons for at least 3 seconds.
   "Video Format" appears on the display.
② Use the ◁ ▷ button to make the setting.
③ Press the **ENTER**, **MENU** or **RETURN** button to complete the setting.

```
✱Video Format
   < NTSC >
```

Text

Text information display.

[Selectable items] | ON | OFF |

Master Volume

Master volume display during adjustment.

[Selectable items] | ON | OFF |

NET/USB / iPod / Tuner

This sets the time the on-screen display is displayed when an operation is performed.

[Selectable items] | Always | 30s | 10s | OFF |

5 Quick Select Name

Change the Quick Select name.
Up to 16 characters can be input.

[Input characters] | A ~ Z | a ~ z | 0 ~ 9 |

| ! " # % & ' ( ) * + , - . / : ; < = > ? @ [\ ] (space) |

o **Trigger Out 1**

Select the conditions to turn on the trigger out 1 with respect to the zone, input source, surround mode, HDMI monitor, etc.

For details about the trigger out function, see page 21.

p **Trigger Out 2**

This sets the conditions to turn on the trigger out 2, in the same way as "Trigger Out 1" above.

[Selectable items] **ON** **– – –**

Setting with Respect to the Zone

• When the power of the zone turned on/off, the trigger out turns on.
• Associated with the power supply of zones set to "ON".

Setting with Respect to the Input Source

• When the input source set to on is selected, the trigger out turns on.
• Associated with respect to the input source for zones set to "ON" at "Setting with Respect to the Zone".

Setting with Respect to the Surround Mode

• When the surround mode set to on is selected, the trigger out turns on.
• Associated with respect to surround modes that are set to "ON".
• This can be set if the "MAIN ZONE" setting at "Setting with Respect to the Zone" is set to "ON".
• Associated when an input source for which "Setting with Respect to the Input Source" is set to "ON" is selected.

Setting with Respect to the Monitor

• When the HDMI monitor set to on is selected, the trigger out turns on.
• Associated with respect to HDMI monitor that are set to "ON".
• This can be set if the "MAIN ZONE" setting at "Setting with Respect to the Zone" is set to "ON".
• Associated when an input source for which "Setting with Respect to the Input Source" is set to "ON" is selected.

q **Digital Out**

Set usage of OPT3 OUT.

[Selectable items] **ZONE4 Select** **Rec Select**

NOTE

The ZONE4 operations cannot be performed when set to "Rec Select".

r **Remote ID**

Set remote control ID.
Match the ID setting of the remote control unit and the receiver.

[Selectable items] **1** **2** **3** **4**

✐

• When changing the remote ID, also change the "AMP", "iPod", "TU" and NET/DTU modes of the main remote control unit at the same time (☞page 64).
• When changing the remote ID, also change the sub remote control unit at the same time (☞page 69).

s **2Way Remote**

Make setting for 2-way remote control unit.

[Selectable items] **Used** **Not Used**

✐

When using a 2-way remote control unit (RC-7000CI and RC-7001RCI, sold separately), set this to "Used".

t **Dimmer**

Adjust display brightness of the receiver.

[Selectable items] **Bright** **Dim** **Dark** **OFF**

☞ **Operating from the main unit**

Press the **DIMMER** button.

Bright → Dim → Dark → OFF → (back to Bright)

u **Setup Lock**

Protect settings from inadvertent change.

[Selectable items] **ON** **OFF**

✐

• When "Setup Lock" is set to "ON", the settings listed below can no longer be changed. Also, "SETUP LOCKED!" is displayed if you attempt to operate related buttons.
  · GUI menu operations
  · RESTORER
  · Night Mode
  · Parameter
  · Room EQ
  · Channel Level
  · Audio Delay
  · Video Format / GUI Language
• To cancel the setting, press the **MENU** button to re-display the "Setup Lock" screen, then change the setting to "OFF".

v **Maintenance Mode**

This sets the function for maintenance by a DENON serviceperson or installer. (For professional use only.)

This function allows a DENON serviceperson or installer to check the AVR-4308CI's status and make settings via the Internet.

NOTE

Only use this function if so instructed by a DENON serviceperson or installer.

36

⁕14 Firmware Update

Update the firmware of the receiver.

[Selectable items]

 Start :

Execute the update process.

When updating starts, the power indicator lights red. "Updating ＊＊＊" is shown on the display during updating. Once updating is completed, "Updating complete" is displayed.

"Latest firmware" is displayed when the firmware is the latest version.

※ If the display reads as shown below, check the settings and network environment, then update again.

Display	Description
Updating failed	Updating failed.
Login failed	Failure to log into server.
Server is busy	Server is busy. Wait a while then try again.
Connection failed	Failure connecting to server.
Regist failed	Failure registering to server.

 NOTE

• Connection to the network and specific settings are required to update the firmware. For details, see page 20, 32 ~ 34.
• Do not turn off the power until updating is completed.
• Normally there is no need to use this function, aside from the cases described below.
  · The Firmware Update function is only used for updating the firmware (free or for a charge) via the Internet, for example for the purpose of adding functions to the AVR-4308CI in the future.
  · Information regarding the Firmware Update function will be announced on the DENON web site each time related plans are defined.
  · A broadband connection to the Internet is required to use this function (☞ page 20).
  · Even with a broadband connection to the Internet, approximately 1 hour is required for the updating procedure to be completed. Once updating starts, normal operations on the AVR-4308CI cannot be performed until updating is completed.
    Furthermore, updating the firmware may reset the backup data for the parameters, etc., set for the AVR-4308CI.
  · When updating the firmware, we recommend using wired connections (Ethernet cable).

Language

This sets the language used on the display screens.

● **Menu tree** ●

Manual Setup
└─   **Language**

[Selectable items]

 English   Français

✍ Operating from the main unit

① Press and hold the **STATUS** and **RETURN** buttons for at least 3 seconds.
  "Video Format" appears on the display.
② Use the △▽ button to set "GUI Language".
② Use the ◁ ▷ button to make the setting.
③ Press the **ENTER**, **MENU** or **RETURN** button to complete the setting.

```
⁕GUI Language
  <  ENGLISH  >
```

Source Select

Use this procedure to select the input source and make the settings related to playing input sources.

Input Source Selection

● **Menu tree** ●

Source Select
├─   **TUNER**
├─   **PHONO**
├─   **CD**
├─   **DVD**
├─   **HDP**
├─   **TV/CBL**
├─   **SAT**
├─   **VCR**
├─   **DVR**
├─   **V.AUX**
├─   **NET/USB**
├─   **XM**
└─   **HD Radio**

✍ Operating from the main unit or main remote control unit

【Operation on the main unit】
Turn the **SOURCE SELECT** knob.
※ If "Rec Select" or "Video Select" is selected for the input source, press the **SOURCE** button before turning the **SOURCE SELECT** knob.

【Operation on the main remote control unit】
Press the **SOURCE SELECT** button.
The desired input source can be selected directly.
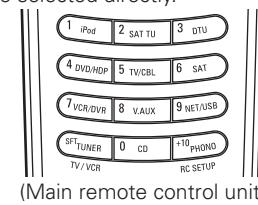
SOURCE SELECT

(Main unit)   (Main remote control unit)

37

✐

To operate the AVR-4308CI using the main remote control unit, set the remote control unit to the AMP mode (☞page 61 "Remote Control Unit Operations").

Settings Related to Playing Input Sources [GUI]

● Menu tree ●

Source Select

TUNER
- ❶ Play
- ❷ Auto Preset
- ❸ Preset Skip
- ❹ Preset Name
- ❺ Input Mode
- ❻ Rename
- ❼ Other

PHONO
- ❺ Input Mode
- ❻ Rename
- ❼ Other

CD, DVD, HDP, TV/CBL, SAT, VCR, DVR, V.AUX
- ❶ Play ＊
- ❽ Playback Mode (iPod) ＊
- ❾ Assign
- ❺ Input Mode
- ❻ Rename
- ❼ Other

NET/USB
- ❶ Play
- ❿ Playback Mode
- ⓫ Still Picture
- ❺ Input Mode
- ❻ Rename
- ❼ Other

Source Select

XM
- ❶ Play
- ❸ Preset Skip
- ⓬ Antenna Aiming
- ❺ Input Mode
- ❻ Rename
- ❼ Other

HD Radio
- ❶ Play
- ❷ Auto Preset
- ❸ Preset Skip
- ❹ Preset Name
- ❺ Input Mode
- ❻ Rename
- ❼ Other

＊ : "Play" and "Playback Mode (iPod)" are displayed for input sources for which "iPod dock" is assigned.

❶ Play
The playback screen is displayed.

[Input source] TUNER NET/USB XM HD Radio (iPod)

❷ Auto Preset
Use the auto preset function to program radio stations.

[Input source] TUNER HD Radio

[Selectable items] Start

✐

If an FM station cannot be preset automatically, select the desired station by tuning it in manually, then preset it manually.

❸ Preset Skip
Make settings to skip preset memory numbers during auto preset.

A ~ G

Select the preset channel(s) you do not want to display.

[Input source] TUNER HD Radio XM

[Selectable items] All 1 2 3 4 5 6 7 8

[Selectable items] ON Skip

✐

When set to "All" or "Skip", it is possible to skip entire preset memory blocks (A to G).

❹ Preset Name
Assign name to a preset memory.
Names containing up to 8 characters can be input.

A1 ~ G8

Select the preset memory number.

[Input source] TUNER HD Radio

[Characters that can be input]

A ~ Z a ~ z 0 ~ 9 ! " # % & ' ( ) * + , - . / : ; < = > ? @ [\ ] (space)

38

❺ Input Mode

Make input mode and decode mode settings for this source.
The selectable input modes depend on the input source and "Assign" setting (☞page 40).

Input Mode

Set the input mode for this source.

[Input source] | TUNER | PHONO | (iPod)

[Selectable items] | Analog | EXT. IN

[Input source] | NET/USB | XM | HD Radio

[Selectable items] | Auto | EXT. IN

[Input source]

| CD | DVD | HDP | TV/CBL | SAT | VCR | DVR | V.AUX

[Selectable items]

| Auto | HDMI | Digital | Analog | EXT. IN

✎

• When a digital signal is properly input, the "DIGITAL" or "HDMI" indicator lights on the display. If the "DIG." indicator does not light, check the digital input connector assignment and the connections.
• The surround mode cannot be set if the input mode is set to "EXT. IN".

👆 **Operating from the main unit or main remote control unit**

Press the **INPUT MODE** button on the main unit or the **INPUT** button on the main remote control unit.

```
  ┌──► Auto ──────► HDMI ──*1──► Digital ──*2──┐
  │                                            │
  └──── EXT. IN ◄──── Analog ◄─────────────────┘
```

∗1: This can be selected for input sources for which the GUI menu "Assign" setting is set to "HDMI" (☞page 40).
∗2: This can be selected for input sources for which the GUI menu "Assign" setting is set to "Digital" (☞page 40).

Decode Mode

Set the decode mode for this source.

[Input source] | CD | DVD | HDP | TV/CBL | SAT | VCR | DVR | V.AUX

[Selectable items] | Auto | PCM | DTS

✎

• This can be selected for input sources for which the GUI menu "Assign" setting is set to "HDMI" or "Digital" (☞page 40).
• Only set "PCM" and "DTS" when playing the respective signals.

❻ Rename

Change the display name for this source.
Names containing up to 8 characters can be input.

[Characters that can be input]

A ~ Z | a ~ z | 0 ~ 9 | ! " # % & ' ( ) * + , - . / : ; < = > ? @ [\ ] (space)

❼ Other

Make various other settings.

Video Select

Switch video input source while listening to audio signal.

[Selectable items]

DVD | HDP | TV/CBL | SAT | VCR | DVR | V.AUX | Source

👆 **Operating from the main unit**

Press the **VIDEO SELECT** button, then turn the **SOURCE SELECT** knob until the desired picture appears.
※ To cancel, turn the **<SOURCE SELECT>** control while pressing the **<VIDEO SELECT>** button and select "Source".

NOTE

• It is not possible to select HDMI input signals.
• When playing HDMI video input signals, the analog video signal of another input source cannot be selected for the HDMI video output.

Video Convert

Automatically convert video input signal to monitor output format.

[Input source] | DVD | HDP | TV/CBL | SAT | VCR | DVR | V.AUX

[Selectable items] | ON | OFF

Source Level

Corrects the playback level of the selected input source's audio input.

[Variable range] | –12dB | ~ | 0dB | ~ | +12dB

✎

For input sources for which "HDMI" and "Digital" are set at the GUI menu "Assign" setting, the analog input level and digital input level can be set separately.

❽ Playback Mode (iPod)

Make settings for "iPod" playback.

Repeat

Make settings for repeat mode.

[Input source] | CD | DVD | HDP | TV/CBL | SAT | VCR | DVR | V.AUX

[Selectable items] | All | One | OFF

Shuffle

Make settings for shuffle mode.

[Input source] | CD | DVD | HDP | TV/CBL | SAT | VCR | DVR | V.AUX

[Selectable items] | Songs | Albums | OFF

✎

This can be selected for input sources for which "Assign" is assigned at the "iPod dock" setting.

9 Assign

Assign input sources to input connectors.

HDMI

Select HDMI connector to assign to this source.

[Input source] DVD HDP TV/CBL SAT VCR
DVR V.AUX

[Selectable items] 1 2 3 4 None

Input source	DVD	HDP	TV/CBL	SAT	VCR	DVR	V.AUX
Default setting	HDMI1	HDMI2	HDMI3	None	None	HDMI4	None

- With HDMI, the video and audio signals are transferred simultaneously. When HDMI is assigned to an input source, the audio signal switches to HDMI along with the video signal. To use with the digital audio input connectors assigned, set GUI menu "Input Mode" to "Digital" (☞ page 39).
- When the AVR-4308CI and monitor are connected with an HDMI cable, if the monitor is not compatible with HDMI audio signal playback, only the video signals are output to the monitor.
- The audio signals input from the analog, digital and EXT. IN connectors are not output to the monitor.

NOTE

This cannot be set for input sources for which "iPod dock" is assigned.

Digital

Select digital input connector to assign to this source.

[Input source] CD DVD HDP TV/CBL SAT
VCR DVR V.AUX

[Selectable items] Coaxial1 ~ 3 Optical1 ~ 4
DENON LINK * None

Input source	CD	DVD	HDP	TV/CBL	SAT	VCR	DVR	V.AUX
Default setting	Coaxial 3	Coaxial 1	OFF	Coaxial 2	Optical 1	Optical 3	Optical 2	Optical 4

*: When a DENON DVD player and the DENON LINK have been connected, be sure to make a setting to "DENON LINK".

NOTE

- This cannot be set for input sources for which "iPod dock" is assigned.
- When "DENON LINK" is assigned at the GUI menu "Assign" setting, the PCM signals, network audio signals (Internet radio, music server and USB), XM signals and HD Radio signals input from the digital input connectors cannot be output from the ZONE2 and ZONE3 audio output connectors and the analog REC OUT connectors.

Component

Select component video input to assign to this source.

[Input source] DVD HDP TV/CBL SAT VCR
DVR V.AUX

[Selectable items] 1 2 3 None

Input source	DVD	HDP	TV/CBL	SAT	VCR	DVR	V.AUX
Default setting	Component 1	Component 2	Component 3	None	None	None	None

This cannot be set for input sources for which "iPod dock" is assigned.

iPod dock

Assign Control Dock for iPod to this source.

[Input source] CD DVD HDP TV/CBL SAT VCR
DVR V.AUX

[Selectable items] Assign None

- With the default settings, the Control Dock for iPod can be used connected to the VCR (iPod) connector.

10 Playback Mode

Make settings for "NET/USB" playback.

[Input source] NET/USB

USB Select

Select USB port to use.

[Selectable items] Front Rear

Match the port to be used and the setting.

Repeat

Make settings for repeat mode.

[Selectable items] All One OFF

Random

Make random mode settings.

[Selectable items] ON OFF

Direct Play

Set the folder to be played using the **DIRECT PLAY** button on the sub remote control unit.

[Selectable items] Favorites All Music

⓫ Still Picture

Make settings for still picture (JPEG) playback.

[Input source] `NET/USB`

Slide Show

Make slideshow settings.

[Selectable items] `ON` `OFF`

Interval

Set the playback time per image.

[Variable range] `5 ~ 60s`

⓬ Antenna Aiming

Adjust the XM radio reception sensitivity.

[Input source] `XM`

Satellite

Indicate satellite signal strength.

Terrestrial

Indicate terrestrial signal strength.

Display	Condition
▦▦▦▦	Signal strength is strong
▦▦▦	Signal strength is good
▦▦	Signal strength is marginal
▦	Signal strength is weak
	No signal

41

GUI

Surround Modes

Standard Playback

This is the standard mode for enjoying surround sound according to the program source.

Surround Playback of 2-channel Sources

To select these surround modes using the buttons on the main unit and main remote control unit, press the **STANDARD** button. The mode switches each time the button is pressed.

• When using a surround back speaker

[Selectable items] `DOLBY PLⅡx` `DTS NEO:6` `neural`

• When not using a surround back speaker

[Selectable items] `DOLBY PLⅡ` `DTS NEO:6` `neural`

DOLBY PLⅡx or **DOLBY PLⅡ** : The signals are decoded in DOLBY PLⅡx or DOLBY PLⅡ for playback.

→ **Cinema** : This mode is suited for movie sources.

→ **Music** : This mode is suited for music sources.

→ **Game** : This mode is suited for games.

→ **Pro Logic** : This is the Pro Logic playback mode. This can be selected when playing with a DOLBY PLⅡ decoder. When this mode is selected, "DOLBY PL" is displayed.

DTS NEO:6 : The signals are decoded in DTS NEO:6 for playback.

→ **Cinema** : This mode is suited for movie sources.

→ **Music** : This mode is suited for music sources.

neural : It is possible to play analog input signals and PCM (2-channel) in the surround mode. This is the optimum mode for playing sources recorded in XM HD Surround (☞ page 49).

✎

Select the "Cinema", "Music", "Game" and "Pro Logic" modes at GUI menu "Parameter" – "Audio" – "Surround Parameters" – "Mode" (☞ page 42 ~ 44).

Playing Multi-channel Sources (Dolby Digital, DTS, etc.)

[Selectable items]

`STANDARD` :

This mode is for decoding the input signals according to their format and playing surround sound.
The display when the STANDARD mode is selected depends on the input signal and surround back output playback mode.

Input signal		Display
Dolby Digital Source	DOLBY DIGITAL (other than 2ch) / DOLBY DIGITAL EX	DOLBY DIGITAL
		DOLBY DIGITAL EX
		DOLBY DIGITAL+PLⅡx CINEMA
		DOLBY DIGITAL+PLⅡx MUSIC
	DOLBY DIGITAL Plus	DOLBY DIGITAL +
	DOLBY TrueHD	DOLBY TrueHD
DTS Surround Source	DTS (5.1ch) / DTS-ES Discrete 6.1 / DTS-ES Matrix 6.1 / DTS 96/24	DTS SURROUND
		DTS+PLⅡx CINEMA
		DTS+PLⅡx MUSIC
		DTS+NEO:6
		DTS ES MTRX6.1 (＊1)
		DTS ES DSCRT6.1 (＊2)
		DTS 96/24 (＊3)
	DTS-HD High Resolution Audio	DTS-HD
	DTS-HD Master Audio	DTS-HD MSTR
DVD-Audio, SACD	PCM (multi ch) / DSD (multi ch)	MULTI CH IN
		MULTI IN+PLⅡx CINEMA
		MULTI IN+PLⅡx MUSIC
		MULTI CH IN 7.1

＊1 : This is displayed when the input signal is "DTS-ES Matrix 6.1" and the AVR-4308CI's "AFDM" setting is set to "ON".

＊2 : This is displayed when the input signal is "DTS-ES Discrete 6.1".

＊3 : This is displayed when the input signal is "DTS 96/24".

✎

For details, see page 79.

DSP Simulation Playback

The desired mode according to the program source and viewing situation can be selected from among 10 DENON original surround modes.
The surround parameters can be adjusted (☞page 77, 78) to achieve an even more realistic, powerful sound field.

[Selectable items]

7CH STEREO	: This mode is for enjoying stereo sound from all speakers.
WIDE SCREEN	: This mode is for enjoying the atmosphere of viewing a movie on a large screen.
SUPER STADIUM	: This mode is suited for viewing sports programs.
ROCK ARENA	: This mode is for enjoying the atmosphere of a live concert in an arena.
JAZZ CLUB	: This mode is for enjoying the atmosphere of a live concert in a jazz club.
CLASSIC CONCERT	: This mode is for appreciating classical concert programs.
MONO MOVIE *	: This mode is for playing monaural movie sources with surround sound.
VIDEO GAME	: This mode is suited for achieving surround sound with video games.
MATRIX	: This mode lets you add a sense of expansion to stereo music sources.
VIRTUAL	: This mode is for enjoying surround effects using only the front speakers or headphones.

* : When playing sources recorded in monaural in the MONO MOVIE mode, the sound will be off balance with a single channel (left or right), so input to both channels.

✏

• To select these surround modes using the buttons on the main unit or main remote control unit, press the **[SIMULATION]** button. The mode switches each time the button is pressed.
• Depending on the program source being played, it may not be possible to achieve a satisfactory surround effect. In this case, try other modes to achieve a sound field suited to your tastes.

Stereo Playback

[Selectable items]

STEREO :
This is the mode for playing in stereo. The tone can be adjusted.
Sound is output from the front left and right speakers and subwoofer.

Direct Playback

[Selectable items]

DIRECT :
In this mode the signals bypass the tone adjustment circuitry for high quality sound.
The sound is output to the same channels as the input signal.
The display when the DIRECT mode is selected depends on the input signal.
For multi-channel sources, the display depends on the surround back output's play mode.

Input signal	Display
Analog signal / PCM (2ch) / Dolby Digital source / DTS source / Other 2-channel digital signals	DIRECT
DSD (2ch)	DSD DIRECT (*)
PCM (multi ch)	MULTI CH DIRECT
	M DIRECT + PLIIx CINEMA
	M DIRECT + PLIIx MUSIC
	M DIRECT 7.1
DSD (multi ch)	DSD MULTI DIRECT (*)

* : When DSD signals are converted to PCM signals as set by the audio parameters and speaker settings, "DIRECT" or "MULTI CH DIRECT" is displayed.

✏

For details, see page 80.

Playback in the Pure Direct Mode
This is the mode that recreates the original sound most faithfully, providing extremely high quality sound.

Press the PURE DIRECT button on the main unit.

✏

• When in the PURE DIRECT mode, the GUI screen is not displayed and the display on the main unit is turned off.
• If the HDMI input connector is selected, video outputs are output in the PURE DIRECT mode.
• The channel level and surround parameters in the PURE DIRECT mode are the same as in the DIRECT mode.

Parameter [GUI]

Parameters can be called out directly by pressing the **PARA** button on the main remote control unit.

Audio [GUI]

Adjust various audio parameters.

● Menu tree ●

```
Parameter
  └─ Audio
      ├─ 1 Surround Parameters
      ├─ 2 Tone
      ├─ 3 Room EQ
      ├─ 4 RESTORER
      ├─ 5 Night Mode
      └─ 6 Audio Delay
```

1 Surround Parameters
Adjust surround sound parameters.
The adjustable parameters differ for the different surround modes (☞page 77, 78).

Mode

Select the mode according to the playback source.

[Selectable items]

In the PLIIx or PLII mode: **Cinema Music Game**
Pro Logic *

In the DTS NEO:6 mode: **Cinema Music**

* : Can be selected in the PLII mode.

✏

The "Music" mode is also effective for movie sources including a lot of stereo music.

Cinema EQ

Soften the treble range of movie soundtracks for better understanding.

[Selectable items] ON OFF

DRC

Compress dynamic range (difference between loud and soft sounds).

[Selectable items] Auto Low Middle High OFF

✎

This can be set in the Dolby TrueHD mode.

D.COMP

Compress dynamic range (difference between loud and soft sounds).

[Selectable items] OFF Low Middle High

✎

When playing DTS sources, this is only displayed for compatible software.

LFE

Adjust the low-frequency effects level (LFE).

[Variable range] –10dB ~ 0dB

✎

For proper playback of the different program sources, we recommend setting to the values below.
• Dolby Digital sources: "0 dB"
• DTS movie sources: "0 dB"
• DTS music sources: "-10 dB"

Center Image

Assign center channel signal to front left and right channels for wider sound.

[Variable range] 0.0 ~ 0.3 ~ 1.0

Panorama

Assign front L/R signal also to surround channels, for wider sound.

[Selectable items] ON OFF

Dimension

Shift sound image center to front or rear, to adjust playback balance.

[Variable range] 0 ~ 3 ~ 6

Center Width

Assign center channel signal to front left and right channels for wider sound.

[Variable range] 0 ~ 3 ~ 7

Delay Time

Adjust delay time to control sound stage size.

[Variable range] 0 ms ~ 30 ms ~ 300 ms

Effect

Switch effect signal for multi-surround speakers on and off.

[Selectable items] ON OFF

Effect Level

Adjust effect signal level.

[Variable range] 1 ~ 10 ~ 15

✎

Set to a lower level if the positioning and sense of phase of the surround signals seems unnatural.

Room Size

Determine size of acoustic environment.

[Selectable items] Small Medium small Medium Medium large Large

NOTE

"Room Size" does not indicate the size of the room in which sources are played.

AFDM

Auto-select surround mode by source.
This function only works for software containing a special identification signal.
If the software being played is recorded in Dolby Digital EX or DTS-ES, it is played in 6.1-channels. If not, it is played in 5.1-channels.

[Selectable items] ON OFF

Example : Playing Dolby Digital software (with EX flag)
• When "AFDM" is set to "ON", the surround mode is automatically set to the DOLBY + PLIIx CINEMA mode.
• To play in the Dolby Digital EX mode, set "AFDM" to "OFF" and "SB CH Out" to "MTRX ON".

✎

Some Dolby Digital EX sources do not include EX flags. If the playback mode does not switch automatically even when "AFDM" is set to "ON", set "SB CH Out" to "MTRX ON" or "PLIIx CINEMA".

SB CH Out (for Multi-channel sources)

Select playback mode for surround back channels.

[Selectable items]

NON MTRX MTRX ON PLIIx CINEMA *1 PLIIx MUSIC *2 ES MTRX *3 ES DSCRT *4 OFF

*1: This can be selected when "Surround Back" is set to "2spkrs" at the GUI menu "Manual Setup" – "Speaker Setup" – "Speaker Configuration" setting (☞ page 28).
*2: This can be selected when "Surround Back" is set to "2spkrs" or "1spkr" at the GUI menu "Manual Setup" – "Speaker Setup" –"Speaker Configuration" setting.
*3: This can be selected when playing DTS sources.
*4: This can be selected when playing DTS sources including a discrete 6.1-channel signal identification signal.

SB CH Out (for 2-channel sources)

Determine whether to use surround back speakers.

[Selectable items] ON OFF

Subwoofer Att.

Attenuate subwoofer level when using EXT. IN mode.

[Selectable items] ON OFF

🖉

Set this to "ON" if the subwoofer channel level seems too high when playing Super Audio CDs.

Subwoofer

Sets whether or not to output subwoofer signals when in the DIRECT or STEREO mode.

[Selectable items] ON OFF

Default

Resets the settings to the default values.

② Tone
Adjust the tonal quality of the sound.

Tone Defeat

Turn tone adjustments off.

[Selectable items] ON OFF

🖉

The tone cannot be adjusted when in the DIRECT mode.

Bass

Adjust low frequency range (bass).

[Variable range]   –6dB ~ 6dB

Treble

Adjust high frequency range (treble).

[Variable range]   –6dB ~ 6dB

🖉

"Bass" and "Treble" can be set when "Tone Defeat" is set to "OFF".

③ Room EQ
Select room equalizer for current environment.

[Selectable items]

Audyssey	: Optimize frequency response of all speakers to match room acoustics.
Audyssey Byp. L/R	: Optimize frequency response of speakers except front speakers to match room acoustics.
Audyssey Flat	: Optimize frequency response of all speakers to flat response.
Manual	: Apply frequency response set with "Manual EQ".
OFF	: Turn equalizer off.

👆 Operating from the main unit or main remote control unit

Press the **ROOM EQ** button on the main unit or the **EQ** button on the main remote control.

```
    ┌──► Audyssey ──────► Audyssey Byp. L/R ──┐
    └── OFF ◄── Manual ◄── Audyssey Flat ◄────┘
```

When "Audyssey" is selected, " AUDYSSEY MULTEQ XT " lights.

When "Audyssey Byp. L/R" or "Audyssey Flat" is selected, or when the auto setup measuring results have changed, " AUDYSSEY MULTEQ XT " lights.

🖉

- "Audyssey", "Audyssey Byp. L/R" and "Audyssey Flat" can be set after the auto setup procedure has been performed.
- If the settings of speakers for which "None" has been determined at "Auto Setup" are changed, "Audyssey", "Audyssey Byp. L/R" and "Audyssey Flat" cannot be selected.
- When using headphones, "Room EQ" is set to "OFF".

④ RESTORER
This function restores compressed audio signals to how they were before compression and corrects the sense of volume of the bass to obtain richer playback sound.

[Selectable items] OFF Mode1 Mode2 Mode3

👆 Operating from the main unit or main remote control unit

During playback, press the **RESTORER** button on the main unit or the **RSTR** button on the main remote control unit.

When set to something other than "OFF", " RESTORER " is displayed.

```
    ┌──► OFF ──────► Mode 1 ──────► Mode 2 ──┐
    └────────────── Mode 3 ◄─────────────────┘
```
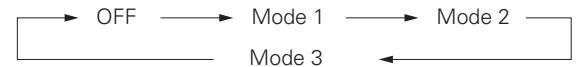
About the RESTORER function

- Such compressed audio formats as MP3, WMA (Windows Media Audio) and MPEG-4 AAC reduce the amount of data by eliminating signal components that are hard for the human ear to hear. The RESTORER function generates the signals eliminated upon compression, restoring the sound to conditions near those of the original sound before compression. It also corrects the sense of volume of the bass to obtain richer sound with compressed audio signals.
- This is displayed on the GUI menu and can be set when the input source is set to "XM", "HD Radio" or "NET/USB", or when analog signals (including AM/FM signals) or PCM signals (fs = 44.1/48 kHz) are input.

Getting Started

Connections

Setup

Playback

Remote Control

Multi-Zone

Information

Troubleshooting

5 Night Mode

Optimized setting for late-night listening.

[Selectable items] OFF | Low | Middle | High

👆 Operating from the main remote control unit

Press the **NGT** button.
The " NIGHT " indicator lights when "Low", "Middle" or "High" is selected.

```
   ┌──→ OFF ──────→ Low ──────→ Middle ─┐
   │                                     │
   └──────────────── High ◀──────────────┘
```
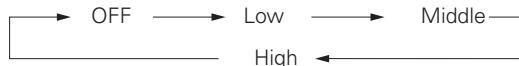
6 Audio Delay

Compensate for mismatched timing between video and audio.

Delay audio.
This sets the delay time for audio signals.

[Variable range] 0 ms ~ 200 ms

👆 Operating from the main remote control unit

① Press the **A. DL** button.
② Use the ◁ ▷ button to set.

✎

- When "Auto" or "Monitor1" is set for the GUI menu "Manual Setup" – "HDMI Setup" – "Monitor Out" setting (☞ page 30), monitor 1 can be set. When "Monitor2" is set, monitor 2 can be set.
- This cannot be adjusted when playing in the EXT. IN, DIRECT or STEREO mode (with "Front" set to "Large", "Tone Defeat" to "ON" and "Room EQ" to "OFF".)
- The adjustment range is 0 to 100 ms when the Auto Lipsync Correction function is activated.

Picture Adjust ⬜GUI⬜

Adjust the picture quality.

● **Menu tree** ●

Parameter

Picture Adjust
1 Contrast
2 Brightness
3 Chroma Level
4 Hue

1 Contrast

Adjust picture contrast.

[Variable range] –6 ~ 0 ~ 6

2 Brightness

Adjust picture brightness.

[Variable range] 0 ~ 12

3 Chroma Level

Adjust picture chroma level (saturation).

[Variable range] –6 ~ 0 ~ 6

4 Hue

Adjust color hue.

[Variable range] –6 ~ 0 ~ 6

✎

- Adjusting the "Contrast", "Brightness", "Chroma Level" and "Hue" settings does not affect the HDMI input signal.
- "Hue" can be adjusted for composite video and S-Video signals.
- The adjustment values are stored for the individual input sources.

Information 📖🔍

Status ⬜GUI⬜

Shows information about current settings.

● **Menu tree** ●

Information

Status
1 MAIN ZONE
2 ZONE2/3/4

1 MAIN ZONE

Shows information about settings for main zone.
The items displayed differ according to the input source.

[Items to be checked]

Input Source	Name	Surround Mode	Input Mode

Assign	Room EQ	Video Select	Source Level	Rec Select

Night Mode | RESTORER etc.

2 ZONE2/3/4

Shows information about settings for multi-zone.

[Items to be checked] Power | Select Source | Volume Level

Audio Input Signal GUI

Shows information about audio input signals.

● **Menu tree** ●

Information
└─ Audio Input Signal

[Items to be checked]

Surround Mode	: The currently set surround mode is displayed.
Signal	: The input signal type is displayed.
fs	: The input signal's sampling frequency is displayed.
Format	: The number of channels in the input signal (front, surround, LFE) is displayed.
Offset	: The dialogue normalization correction value is displayed.
Flag	: "MATRIX" is displayed if the input signal has undergone matrix processing, "DISCRETE" if the input signal has undergone discrete processing.

Dialogue normalization function
This is automatically activated when playing Dolby Digital sources. This function automatically corrects the standard signal level for individual program sources. The correction value can be checked using the **STATUS** button on the main unit. ``` Dial.Norm Offset - 4dB ``` The figure is the correction value when the standard level is corrected.
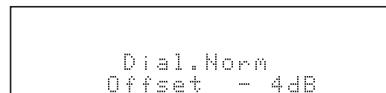
HDMI Information GUI

Shows information about HDMI input/output signals and monitor.

● **Menu tree** ●

Information
└─ HDMI Information
├─ **1** Signal Information
├─ **2** Monitor1
└─ **3** Monitor2

1 Signal Information
The HDMI input/output signal information is displayed.

[Items to be checked] Resolution | Color Space | Pixel Depth

2 Monitor1
The HDMI monitor 1 information is displayed.

3 Monitor2
The HDMI monitor 2 information is displayed.

[Items to be checked] Interface | Supported resol.

Auto Surround GUI

Shows information about auto surround mode settings.
The surround mode for which the last memory function was used for the different input signal types is displayed.

● **Menu tree** ●

Information
└─ Auto Surround

[Items to be checked]

Analog/PCM 2ch | Digital 2ch | Digital 5.1ch | Multi ch

Quick Select GUI

Shows information about quick select settings.

● **Menu tree** ●

Information
└─ Quick Select
├─ 1
├─ 2
└─ 3

[Items to be checked]

Input Source | Input Mode | Room EQ

Auto Surround Mode setting | Volume Level

✎

For instructions on storing settings at Quick Select 1 to 3, see page 59.

Preset Station GUI

Shows information about preset stations.

● **Menu tree** ●

Information
└─ Preset Station
├─ A
├─ B
├─ C
├─ D
├─ E
├─ F
└─ G

[Input source] TUNER | XM | HD Radio | NET/USB

[Items to be checked] A1 ~ G8

✎

When the **STATUS** button on the main unit is pressed, the set's status can be checked on the display.
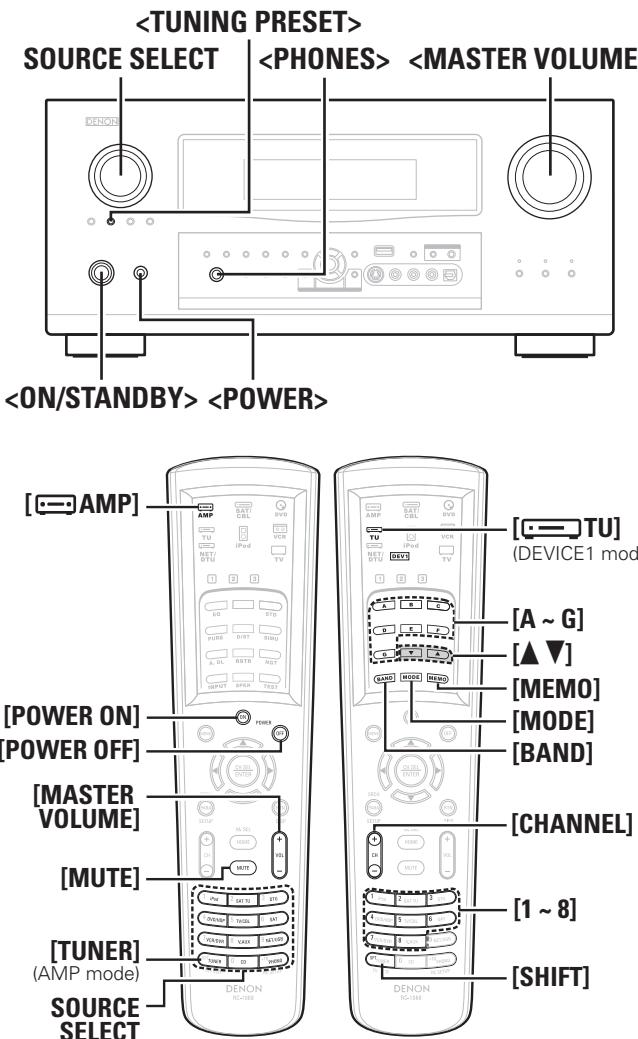
\<TUNING PRESET\>

SOURCE SELECT   **\<PHONES\>**   **\<MASTER VOLUME\>**

\<ON/STANDBY\>   **\<POWER\>**

[⏻AMP]

[⏻TU]
(DEVICE1 mode)

[A ~ G]

[▲ ▼]

[POWER ON]
[POWER OFF]

[MEMO]

[MODE]

[BAND]

[MASTER VOLUME]

[CHANNEL]

[MUTE]

[1 ~ 8]

[TUNER]
(AMP mode)

[SHIFT]

SOURCE SELECT

About the button names in these explanations

< > : Buttons on the main unit

[ ] : Buttons on the remote control unit

Button name only:

Buttons on the main unit and remote control unit

Playback

Preparations

Turning the Power On

1 **Press \<POWER\>.**
The power indicator lights red and the power is set to the standby mode.

2 **Press \<ON/STANDBY\> or [POWER ON].**
The power indicator flashes green and the power turns on.

To operate the AVR-4308CI using the main remote control unit, set the remote control unit to the AMP mode (☞page 61 "Remote Control Unit Operations").

Turning the Power Off

① Press **\<ON/STANDBY\>** or **[POWER OFF]**.
The power is set to the standby mode.

② Press **\<POWER\>**.
The power indicator turns off, and so does the power.

NOTE

Power continues to be supplied to some of the circuitry even when the power is in the standby mode. When leaving home for long periods of time or when traveling, either press **\<POWER\>** to turn off the power, or unplug the power cord from the power outlet.

Operations During Playback

Adjusting the Master Volume

Either turn \<MASTER VOLUME\> or press [MASTER VOLUME].

Turning Off the Sound Temporarily (Muting)

Press [MUTE].

To cancel, press **[MUTE]** again. Muting can also be canceled by adjusting the master volume.

Listening with Headphones

Plug the headphones into \<PHONES\>.
The sound from the speakers and pre-out connectors is automatically cut.

NOTE

Be careful not to set the volume too high when using headphones.

Playing Video and Audio Equipment

Basic Operation

1 **Prepare the equipment.**

① Load the DVD, CD or other software in the player.
(☞ See the operating instructions of the respective devices.)

② To play a video device, switch the monitor input.
(☞ See the monitor's operating instructions.)

2 **To operate using the main remote control unit, set the remote control unit to the AMP mode.**
(☞page 61 "Remote Control Unit Operations")

3 **Use SOURCE SELECT to select the input source.**

GUI : **"Source Select"** (☞ page 37, 38)

4 **Start playback.**
(☞ See the operating instructions of the respective devices.)

Listening to FM/AM Broadcasts

Basic Operation

1 **Either turn <SOURCE SELECT> or press [TUNER] (AMP mode) to select "TUNER".**

> **GUI** : **"Source Select"** (⟋ page 37, 38)

2 **To operate using the main remote control unit, set the remote control unit to the TUNER (DEVICE1) mode.**
(⟋ page 61 "Remote Control Unit Operations")

3 **Press [BAND] to select "FM" or "AM".**

4 **Tune in the desired broadcast station.**

① **To tune in automatically (Auto Tuning)**
Press **[MODE]** to light the "AUTO" indicator on the display, then use **[▲▼]** to select the station you want to hear.

② **To tune in manually (Manual Tuning)**
Press **[MODE]** to turn off the display's "AUTO" indicator, then use **[▲▼]** to select the station you want to hear.

🖉

• It is also possible to switch to "FM" or "AM" in step 1 by pressing **[TUNER]**.
• If the desired station cannot be tuned in with auto tuning, tune it in manually.
• When tuning in stations manually, press and hold **[▲▼]** to change frequencies continuously.
• The time for which the GUI menus are displayed can be set at GUI menu "Manual Setup" – "Option Setup" – "GUI" – "Tuner" (⟋ page 35).

Presetting Radio Stations (Preset Memory)

Your favorite broadcast stations can be preset so that you can tune them in easily. Up to 56 stations can be preset.

1 **Tune in the broadcast station you want to preset.**

2 **Press [MEMO].**

3 **Press [A ~ G] to select the block in which the station is to be preset, then press [CHANNEL] or [1 ~ 8] to select the preset number.**

※ The memory block can also be selected by pressing **[SHIFT]**.

4 **Press [MEMO] again to complete the setting.**

🖉

• To preset other stations, repeat steps 1 to 4.
• Stations can be preset automatically at GUI menu "Source Select" – "Tuner" – "Auto Preset" (⟋ page 38).

NOTE

Preset stations are erased by overwriting them.

Listening to Preset Stations

Operation on the Main Unit

Press <TUNING PRESET>, then turn <SOURCE SELECT> to select the preset radio station.

Operation on the Main Remote Control Unit

❏ **Recalling preset stations from the remote control unit**

1 **Press [A ~ G] to select the memory block.**

2 **Press [CHANNEL] or [1 ~ 8] to select the desired preset channel.**

❏ **Default settings**

Auto tuner presets	
A1 ~ A8	87.5 / 89.1 / 98.1 / 107.9 / 90.1 / 90.1 / 90.1 / 90.1 MHz
B1 ~ B8	520 / 600 / 1000 / 1400 / 1500 / 1710 kHz, 90.1 / 90.1 MHz
C1 ~ C8	90.1 MHz
D1 ~ D8	90.1 MHz
E1 ~ E8	90.1 MHz
F1 ~ F8	90.1 MHz
G1 ~ G8	90.1 MHz
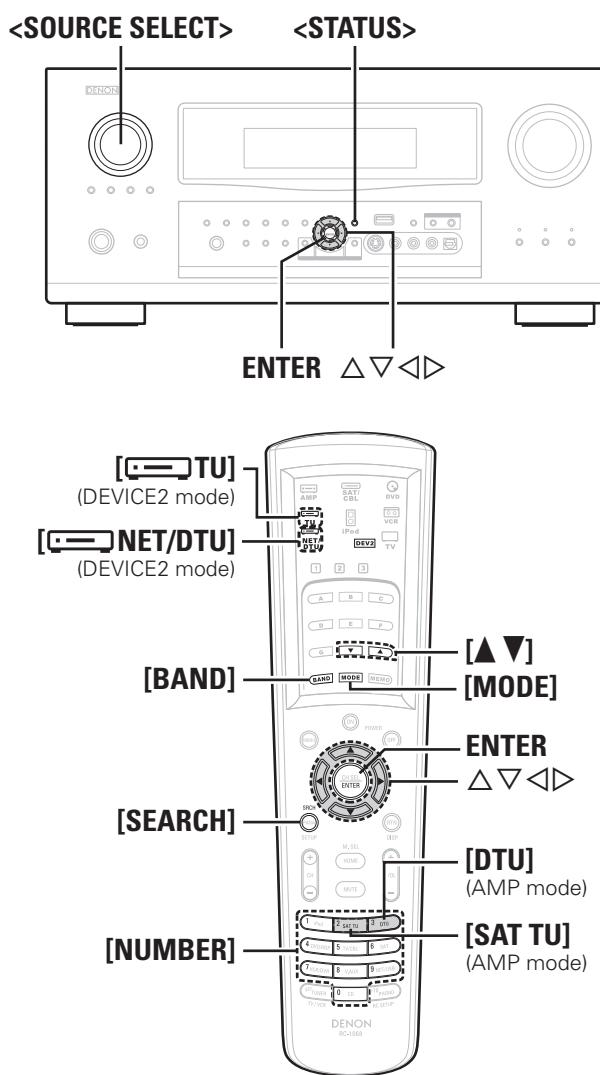
<SOURCE SELECT>　<STATUS>

ENTER △▽◁▷

[☐☐TU]
(DEVICE2 mode)

[☐☐NET/DTU]
(DEVICE2 mode)

[▲▼]

[BAND]　[MODE]

ENTER
△▽◁▷

[SEARCH]

[DTU]
(AMP mode)

[NUMBER]　[SAT TU]
(AMP mode)

About the button names in these explanations

< 　 > : Buttons on the main unit

[　] : Buttons on the remote control unit

Button name only:

Buttons on the main unit and remote control unit

Listening to XM Satellite Radio Programs

About XM Satellite Radio

XM Satellite Radio offers an extraordinary variety of commercial-free music, plus the best in sports, news, talk and entertainment. XM is broadcast in superior digital audio from coast to coast. From rock to reggae, from classical to hip hop, XM has something for every music fan. XM's dedication to playing the richest selection of music is matched by its passion for live sporting events, talk radio, up-to-the-minute news, stand-up comedy, children's programming, and much more. For U.S. customers, information about XM Satellite Radio is available online at www.xmradio.com. For Canadian customers, information about XM Canada is online at www.xmradio.ca.

XM Ready® Legal

Hardware and required monthly subscription sold separately. Other fees and taxes, including a one-time activation fee may apply. Subscription fee is consumer only. All fees and programming subject to change. Channels with frequent explicit language are indicated with an XL. Channel blocking is available for XM radio receivers by calling 1-800-XMRADIO (US residents) and 1-877-GET-XMSR (Canadian residents).

For a full listing of the XM commercial-free channels and advertising-supported channels, visit lineup.xmradio.com (US residents) or xmradio.ca (Canadian residents).

Subscriptions subject to Customer Agreement available at xmradio.com (US residents) and xmradio.ca (Canadian residents). Only available in the 48 contiguous United States and Canada. ©2006 XM Satellite Radio Inc. All rights reserved. All other trademarks are the property of their respective owners.

XM Ready® Subscriptions

Once you have installed the XM Mini-Tuner Dock, inserted the XM Mini-Tuner, connected the XM Dock to your XM Ready® home audio system, and installed the antenna, you are ready to subscribe and begin receiving XM programming. There are three places to find your eight character XM Radio ID: on the XM Mini-Tuner, on the XM Mini-Tuner package, and on XM Channel 0. Record the Radio ID in the following eight squares for reference.

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Note: The XM Radio ID does not use the letters "I", "O", "S" or "F". Activate your XM Satellite Radio service in the U.S. online at http://activate.xmradio.com or call 1-800-XM-RADIO (1-800-967-2346). You will need a major credit card. XM will send a signal from the satellites to activate the full channel lineup. Activation normally takes 10 to 15 minutes, but during peak busy periods you may need to keep your XM Ready home audio system on for up to an hour. When you can access the full channel lineup on your XM Ready home audio system you are done. For more information or to subscribe in Canada, visit XM on the Web at www.xmradio.ca or call XM's Listener Care at 1-877-GET-XMSR (1-877-438-9677).

Basic Operation

1 **Either turn <SOURCE SELECT> or press [SAT TU] (AMP mode) to select "XM".**

GUI : "**Source Select**" (☞ page 37, 38)

2 **To operate using the main remote control unit, set the remote control unit to the TUNER (DEVICE2) mode.**

(☞ page 61 "Remote Control Unit Operations")

3 **Use [▲▼] to select the station.**

When the station is tuned in, the name of the track and artist are displayed.

✎

- The channel switches continuously when [▲▼] is pressed and held.
- XM Radio stations can be preset using the same procedure as for FM/AM stations (☞ page 48 "Presetting Radio Stations (Preset Memory)" and "Listening to Preset Stations").
- The artist name, track name, category and reception level can be checked by pressing <STATUS>.
- The time for which the GUI menus are displayed can be set at GUI menu "Manual Setup" – "Option Setup" – "GUI" – "Tuner" (☞ page 35).

Checking the XM Signal Strength and Radio ID

1 **Either turn <SOURCE SELECT> or press [SAT TU] (AMP mode) to select "XM".**

2 **Press <STATUS> until "SIGNAL" appears on the display.**
The display will switch as shown below, depending on the reception conditions.

Display	GUI	Status
GOOD		Signal strength is good
MARGINAL		Signal strength is marginal
WEAK		Signal strength is weak
NO		No signal

3 **Adjust the position of the antenna until "SIGNAL: GOOD" is shown on the display.**

4 **Press <STATUS> until the station you want to check (example: "XM001") is displayed.**

5 **Press [▼] and select channel 0 (XM000).**
The radio ID is shown on the display.

```
     XM000 RADIO ID
        ********  ◄──── Radio ID
```

✎

The strength of both the XM satellite and terrestrial signals can be checked at GUI menu "Source Select" – "XM" – "Antenna Aiming" (☞page 41).

Searching Categories

1 **Press ◁ ▷.**

```
     XM040 DeepTrks
     CAT:  Rock ◄──── Channel category
```

2 **Use ◁ ▷ to select the category, then use △ ▽ to select the desired station.**

Accessing XM Radio Stations Directly

1 **Press [SEARCH].**

2 **Press [NUMBER] then input the station's channel.**

Example: Accessing station "XM123":
[1] → [2] → [3]

※ If no button is pressed within several seconds, the station automatically switches to the one whose number has been input.

3 **Press [ENTER] to set that station.**
Reception switches to the selected station.

✎

• "LOADING" is displayed while stations or data are being received.
• "UPDATING" is displayed while the encoding code is being updated.
• "XM - - -" is displayed if the selected channel cannot be used.

Listening to HD Radio Stations

HD radio stations offer higher sound quality than conventional FM/AM broadcasts. It is also possible to receive data services and select broadcasts from among up to eight multicast programs.

Using the HD Radio™ Receiver

HD Radio technology provides higher quality sound than conventional broadcasts and allows reception of data services.
• FM sounds as sensational as CDs
• AM sounds as rich as analog FM stereo
• A variety of "data services", including text-based information, song title, artist name, album name, genre, etc. can be received.

Furthermore, in addition to conventional broadcasts, with HD Radio broadcasting it is possible to choose from up to 8 multicast programs.
For detailed information on HD Radio technology, please go to "www. ibiquity.com".

HD Radio®

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Basic Operation

1 **Either turn <SOURCE SELECT> or press [DTU] (AMP mode) to select "HD Radio".**

GUI : **"Source Select"** (☞ page 37, 38)

2 **To operate using the main remote control unit, set the remote control unit to the NET/DTU (DEVICE2) mode.**
(☞page 61 "Remote Control Unit Operations")

3 **Press [BAND] to select "FM" or "AM".**

4 **Tune in the desired broadcast station.**

①**To tune in automatically (Auto Tuning)**
Press **[MODE]** to select "HD Auto" or "Auto", then use **[▲▼]** to select the station you want to hear.
• The "HD" indicator lights on the display when an HD Radio station is tuned in.
• When "HD Auto" (tuning mode) is selected, only HD Radio stations are tuned in.
• If "Auto" (tuning mode) is selected, both HD Radio and analog stations are tuned in.
②**To tune in manually (Manual Tuning)**
Press **[MODE]** to select "Manual", then use **[▲▼]**.

✎

• It is also possible to switch to "FM" or "AM" at step 1 by pressing **[DTU]**.
• If the desired station cannot be tuned in with auto tuning, tune it in manually.
• When tuning in stations manually, press and hold **[▲▼]** to change frequencies continuously.
• HD Radio stations can be preset using the same procedure as for FM/AM stations (☞page 48 "Presetting Radio Stations (Preset Memory)" and "Listening to Preset Stations"). In addition, with HD Radio, multicasts can also be preset.
• The time for which the GUI menu is displayed can be set at GUI menu "Manual Setup" – "Option Setup" – "GUI" – "Tuner" (☞page 35).

<SOURCE SELECT>   <STATUS>

<ON/STANDBY>   △▽◁▷   ENTER

[⏷ iPod]

[I◀◀],[▶▶I],
[◀◀],[▶▶],
[II],[■]

△▽◁▷

[SEARCH]   ENTER

[CHANNEL + –]

[iPod]
(AMP mode)

(Main remote control unit)

[I◀◀]   [▶▶I]
[REPEAT]   [RAMDOM]

(Sub remote control unit)

About the button names in these explanations

< > : Buttons on the main unit
[ ] : Buttons on the remote control unit
Button name only:
Buttons on the main unit and remote control unit

51
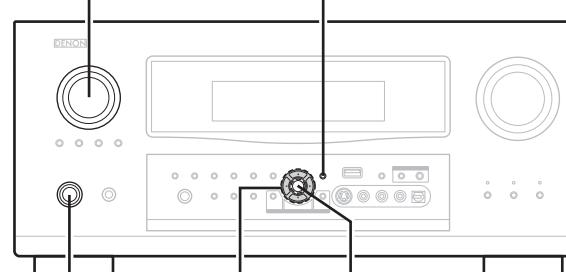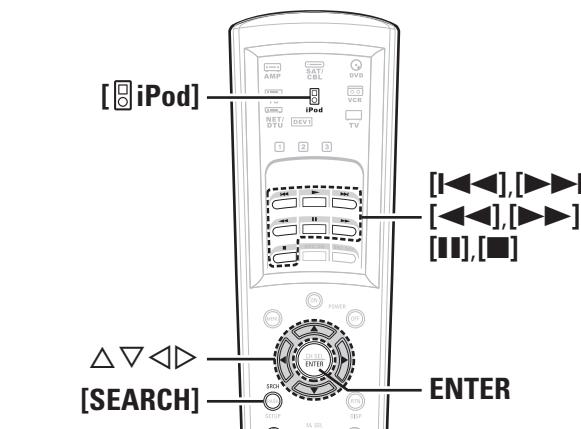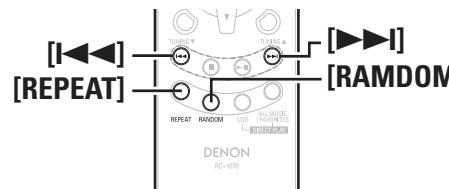
Selecting Audio Programs

HD Radio includes up to 9 audio programs (HD1 to HD8 and Analog). The different audio programs also have data programs.

Press [SEARCH] or △▽ to select the audio program.

If the station you are listening to has multiple audio programs, "HD1" is indicated on the display. If it only has one audio program, "HD" is indicated.

If an audio program from HD2 to HD8 has been interrupted or if a program is called out using the preset buttons after it has been interrupted, HD1 is automatically selected after about 20 seconds.

Check the HD Radio Reception Information

Press <STATUS> while an HD Radio broadcast is being received.

The current reception information is shown on the display.

① Normal
↓
② Frequency / Signal strength
↓
③ Long station name / Program and Program type
↓
④ Title name / Artist name
↓
⑤ Album name / Genre name

NOTE

If the station signal weakens while receiving a digital broadcast (while " HD " and text is displayed), the mode automatically switches to the analog reception mode (the reception frequency is displayed).
Because of this, the " HD " indicator and text may flicker if the station signal level is weak and unstable.

❑ Default settings

Tuner presets	
A1 ~ A8	87.5 / 87.9 / 89.1 / 93.3 / 97.9 / 98.1 / 98.9 /100.1 MHz
B1 ~ B8	101.9 / 102.7 / 107.9 / 90.1 / 90.1 / 90.1 / 90.1 / 90.1 MHz
C1 ~ C8	530 / 600 / 930 / 1000 / 1120 / 1210 / 1400 / 1710 kHz
D1 ~ D8	90.1 MHz
E1 ~ E8	90.1 MHz
F1 ~ F8	90.1 MHz
G1 ~ G8	90.1 MHz

iPod® Playback

The music on an iPod can be played by using the Control Dock for iPod (ASD-1R, sold separately).
The operation can also be performed using the buttons on the main unit or remote control unit while watching the GUI menus.

Made for iPod iPod is a trademark of Apple Computer, Inc., registered in the U.S. and other countries.

※ The iPod may only be used to copy or play contents that are not copyrighted or contents for which copying or playback is legally permitted for your private use as an individual. Be sure to comply with applicable copyright legislation.

Basic Operation

1 Make the necessary preparations.

① Set the iPod in the DENON Control Dock for iPod.
   (☞ See the Control Dock for iPod's operating instructions.)
② Assign the Control Dock for iPod's input.

GUI : **"Source Select"** – **"**(input source)**"** – **"Assign"**– **"iPod dock"** (☞ page 40)

2 Either turn <SOURCE SELECT> or press [iPod] (AMP mode) to select the input source assigned in step 1-② above.

```
iPod                    [🔋]


        DENON


     OK to disconnect
```
(iPod screen)
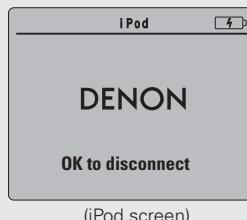
※ If the screens above are not displayed, the iPod may not be properly connected. Try connecting again.

GUI : **"Source Select"** – **"**(input source)**"** – **"Play"** (☞ page 38)

3 To operate using the main remote control unit, set the remote control unit to the iPod mode.
(☞ page 61 "Remote Control Unit Operations")

🖉
• With the default settings, the iPod can be used connected to the VCR (iPod) connector.
• Press **<ON/STANDBY>** and set the AVR-4308CI's power to the standby mode before disconnecting the iPod. Also switch the input source to one to which the GUI menu "iPod dock" is not assigned before disconnecting the iPod.

NOTE
• Depending on the type of iPod and the software version, some functions may not operate.
• DENON will accept no responsibility whatsoever for any loss of iPod data.

Listening to Music

1 Use △▽ to select the menu, then press ENTER or ▷ to select the music file to be played.

2 Press ENTER.
Playback starts.

Stopping playback temporarily
During playback, press **ENTER** or **[❙❙]**.
Press again to resume playback.

Fast-forwarding or fast-reversing
During playback, either press and hold △ (to fast-reverse) or ▽ (to fast-forward), or press **[◀◀]** or **[▶▶]**.

To cue to the beginning of a track
During playback, either press △ (to cue to the previous track) or ▽ (to cue to the next track), or press **[◀◀❙]** or **[▶▶❙]**.

To stop
During playback, either press and hold **ENTER** or press **[■]**.

Playing repeatedly
Press **[CHANNEL –]** or **[REPEAT]** on the sub remote control unit.

[Selectable items] All   One   OFF

GUI : **"Source Select"** – **"**(input source)**"** – **"Playback Mode (iPod)"** – **"Repeat"** (☞ page 39)

Shuffling playback
Press **[CHANNEL +]** or **[RANDOM]** on the sub remote control unit.

[Selectable items] Albums   Songs   OFF

GUI : **"Source Select"** – **"**(input source)**"** – **"Playback Mode (iPod)"** – **"Shuffle"** (☞ page 39)

Searching up or down pages
Press **[SEARCH]**, then press ◁ (down) or ▷ (up).
To cancel, press △▽ or **[SEARCH]**.

To switch between the Browse and Remote modes
Either press and hold **[SEARCH]**.

🖉
• The title name, artist name and album name can be checked by pressing **<STATUS>** during playback.
• On the AVR-4308CI, folder and file names can be displayed as titles. Any characters that cannot be displayed are replaced with " . (period)".
• The time for which the GUI menus are displayed can be set at GUI menu "Manual Setup" – "Option Setup" – "GUI" – "iPod" (☞ page 35).

Viewing Still Pictures or Videos on the iPod

Photo data on the iPod can be viewed on the monitor. (Only for iPods equipped with slideshow or video functions.)

1 Press and hold [SEARCH] to set the Remote mode.

2 Watching the iPod's screen, use △▽ to select "Photos" or "Video".

3 Press ENTER until the image you want to view is displayed.

🖉
"TV Out" at the iPod's "Slideshow Settings" or "Video Settings" must be set to "ON" in order to display the iPod's photo data or videos on the monitor. For details, see the iPod's operating instructions.

Playing Network Audio or USB Memory Devices

This procedure can be used to play Internet radio stations or music or still picture (JPEG) files stored on a computer or USB memory device.

❏ About the Internet radio function

• Internet radio refers to radio broadcasts distributed over the Internet. Internet radio stations from around the world can be tuned in.

The AVR-4308CI is equipped with the following Internet radio functions:

· Stations can be selected by genre and region.
· Up to 56 Internet radio stations can be preset.
· Internet radio stations in MP3 and WMA (Windows Media Audio) format can be listened to.
· Your favorite radio stations can be registered by accessing an exclusive DENON Internet radio URL from a Web browser on a computer.
  ※ The function is managed for individual users, so you must provide your MAC or e-mail address.
  Exclusive URL: http://www.radiodenon.com
  ※ The radio station database service may be suspended without notice.

• The AVR-4308CI's Internet radio station list is created using a radio station database service (vTuner). This database service provides a list edited and created for the AVR-4308CI.
vTuner services may be discontinued without notice.

❏ Music server

This function lets you play music files and playlists (m3u, wpl) stored on a computer (music server) connected to the AVR-4308CI via a network.

With the AVR-4308CI's network audio playback function, connection to the server is possible using one of the technologies below.
· Windows Media Player Network Sharing Service
· Windows Media DRM10

〔Album art function〕

When a WMA (Windows Media Audio), MP3 or MPEG-4 AAC file includes album art data, the album art can be displayed while the music files are playing.

✎

For music files in WMA (Windows Media Audio) format, the album art is only played when using Windows Media Player ver. 11.

〔Slide show function〕

Still picture (JPEG) files stored in folders on a music server can be played as slide shows.
The time for which each picture is displayed can be set.

✎

When still picture (JPEG) files are played on the AVR-4308CI, they are played in the direction in which they are stored in the folder, so store in them in the direction in which you want them to play.

Installing Windows Media Player ver. 11

① If Windows XP Service Pack 2 has not yet been installed, either download it free of charge from Microsoft or install it via a Windows update installer.
② Download the latest version of Windows Media Player ver. 11, either directly from Microsoft or using a Windows update installer.
※ When using Windows Vista, there is no need to download a new version of Windows Media Player.

❏ USB memory devices

A USB memory device can be connected to the AVR-4308CI's USB port to play music and still picture (JPEG) files stored on the USB memory device.
· Only USB memory devices conforming to mass storage class and MTP (Media Transfer Protocol) standards can be played on the AVR-4308CI.
· The AVR-4308CI is compatible with USB memory devices in "FAT16" or "FAT32" format.

〔Album art function〕

When an MP3 music file includes album art data, the album art can be displayed while playing the file.

〔Slide show function〕

Still picture (JPEG) files stored on USB memory devices can be played as slide shows.
The time for which each picture is displayed can be set.

✎

When still picture (JPEG) files are played on the AVR-4308CI, they are played in the direction in which they are stored in the folder, so store in them in the direction in which you want them to play.

[Compatible formats]

	Internet radio	Music server※	USB※
WMA (Windows Media Audio)	○	○	○*
MP3 (MPEG-1 Audio Layer-3)	○	○	○
WAV *	–	○	○
MPEG-4 AAC	–	○*	○*
FLAC (Free Lossless Audio Codec)	–	○	○
JPEG	–	○	○

＊: Only files that are not protected by copyright can be played on the AVR-4308CI.
  ※ Contents downloaded from pay sites on the Internet are copyright protected. Also, files encoded in WMA format when ripped from a CD, etc., on a computer may be copyright protected, depending on the computer's settings.

• The AVR-4308CI is compatible with MP3 ID3-Tag (Ver. 2) standards.
• The AVR-4308CI is compatible with WMA META tags.

[Playable formats]

	Sampling frequency	Bit rate	Extension
WMA (Windows Media Audio)	32/44.1/48 kHz	48~192 kbps	.wma
MP3 (MPEG-1 Audio Layer-3)	32/44.1/48 kHz	32~320 kbps	.mp3
WAV	32/44.1/48 kHz	–	.wav
MPEG-4 AAC	32/44.1/48 kHz	16~320 kbps	.aac/.m4a/.mp4
FLAC (Free Lossless Audio Codec)	32/44.1/48 kHz	–	.flac

WAV format Quantization bit rate: 16 bits.

Getting Started

Connections

Setup

Playback

Remote Control

Multi-Zone

Information

Troubleshooting

<SOURCE SELECT>

△ ▽ ◁ ▷   ENTER

[▭▭▭NET/DTU]
(DEVICE1 mode)

△ ▽ ◁ ▷

[SEARCH]   ENTER

[NET/USB]
(AMP mode)

About the button names in these explanations
< > : Buttons on the main unit
[ ] : Buttons on the remote control unit
Button name only:
    Buttons on the main unit and remote control unit
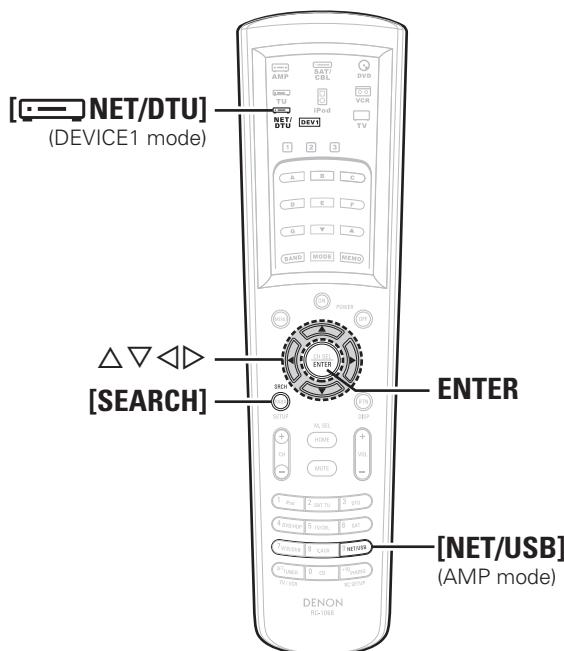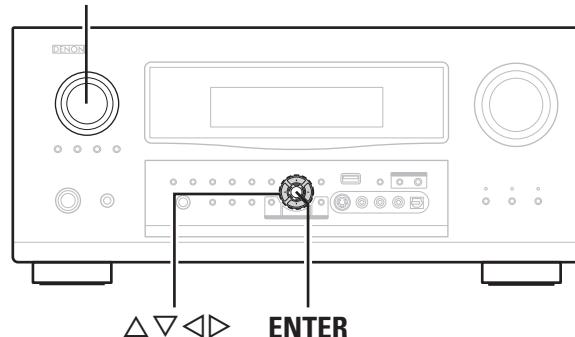
Basic Operation

1 Make the necessary preparations.

① Check the network environment, then turn on the AVR-4308CI's power. (☞ page 20 "Network Audio")
② If settings are required, make the network settings. (☞ page 32 ~ 34 "Network Setup")
③ Prepare the computer. (☞ Computer's operating instructions) Install "Windows Media Player ver. 11".

2 Either turn **<SOURCE SELECT>** or press **[NET/USB]** (AMP mode) to select "NET/USB".

GUI : **"Source Select"** – **"NET/USB"** – **"Play"**
(☞ page 38)

3 To operate using the main remote control unit, set the remote control unit to the NET/DTU (DEVICE 1) mode.

(☞ page 61 "Remote Control Unit Operations")

4 Use △ ▽ to select the menu, then press **ENTER** or ▷ to select the file you want to play.

5 Press **ENTER** or ▷.
Playback starts.

Stopping playback temporarily
During playback, press **ENTER**.
Press again to resume playback.

To stop
During the play or pause mode, press and hold **ENTER**.

Searching up or down pages
Press **[SEARCH]**, then press ◁ (down) or ▷(up).
To cancel, press △ ▽ or **[SEARCH]**.

Searching by first letter (Character search)
This operation is convenient for choosing items from the menu screens for Internet radio stations or files stored on the computer.
① When the menu screen is displayed, press **[SEARCH]** twice.
② Use ◁ ▷ to select the first letter you want to search for.
    If there are multiple items starting with the selected letter, they are displayed in alphabetical order.
    If it is not possible to search the list, "unsorted list." is displayed.

✎

• Use the RESTORER mode to expand the low and high frequency components of compressed audio files and achieve a richer sound.
• The time for which the GUI menus are displayed can be set at GUI menu "Manual Setup" – "Option Setup" – "GUI" – "NET/USB" (☞ page 35).
• The display can be switched between the artist name, track name, album name.

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△▽◁▷ **ENTER**

[◁━━◻NET/DTU]
(DEVICE1 mode)

[A ~ G]

[▲ ▼]

[MEMO]

△▽◁▷

ENTER

[1 ~ 8]

[NET/USB]
(AMP mode)
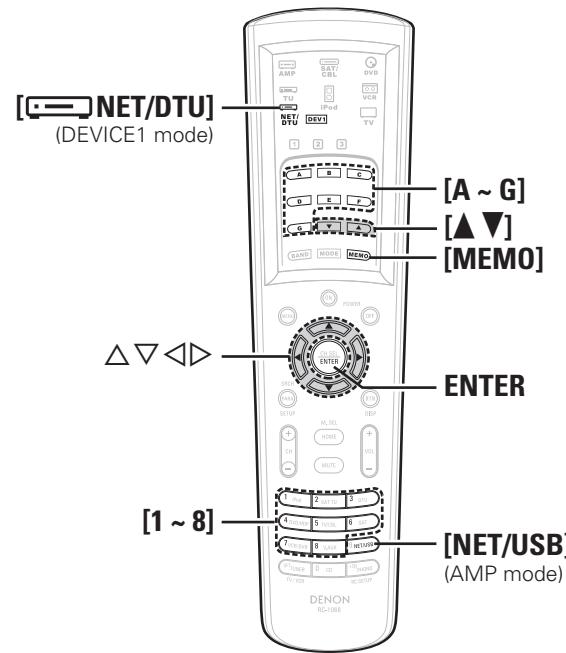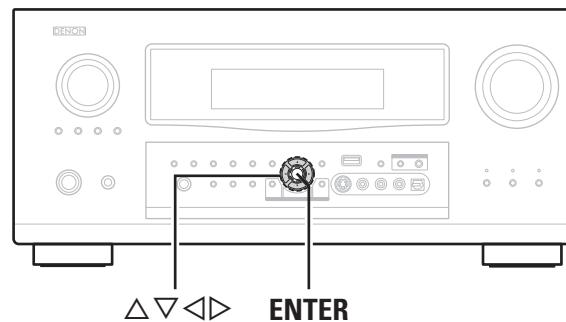
About the button names in these explanations

< > : Buttons on the main unit
[ ] : Buttons on the remote control unit

Button name only:
Buttons on the main unit and remote control unit

Listening to Internet Radio

1 Use △▽ to select "Internet Radio", then press **ENTER** or ▷.

2 Use △▽ to select the item you want to play, then press **ENTER** or ▷.
The station list is displayed.
A "🎵" mark is indicated in front of stations that can be played.

3 Use △▽ to select the station, then press **ENTER** or ▷.
Playback starts once buffering reaches "100%".

✎

• There are many Internet radio stations on the Internet, and the quality of the programs they broadcast as well as the bit rate of the tracks varies widely.
Generally, the higher the bit rate, the higher the sound quality, but depending on the communication lines and server traffic, the music or audio signals being streamed may be interrupted.
Inversely, lower bit rates mean a lower sound quality but less tendency for the sound to be interrupted.
• "Server Full" or "Connection Down" is displayed if the station is busy or not broadcasting.
• On the AVR-4308CI, folder and file names can be displayed as titles. Any characters that cannot be displayed are replaced with " . (period)".

Recently Played Internet Radio Stations

Recently played internet radio stations can be selected from "Recently Played" in top menu.

1 Use △▽ to select "Recently Played", then press **ENTER** or ▷.

2 Use △▽ to select the item you want to play, then press **ENTER** or ▷.

NOTE

Up to 20 stations stored in "Recently Played".

Presetting Internet Radio Stations

Preset Internet radio stations can be selected directly.

1 While the Internet radio station you want to preset is playing, press **[MEMO]**.

2 Use △▽ to select "Preset", then press **ENTER**.

3 Press **[A ~ G]**, then press **[1 ~ 8]** to select the desired preset number.
The Internet radio station is now preset.

NOTE

If registered at a number that has already been preset, the previously registered setting is cleared.

Listening to Preset Internet Radio Stations

With the input source set to "NET/USB", press **[A ~ G]**, then press **[1 ~ 8]**.
The AVR-4308CI automatically connects to the Internet and playback begins.

Registering Internet Radio Stations as Your Favorites

Favorites are listed at the top of the menu screen, so when a station is registered as a favorite it can be tuned in easily.

1 **Press [MEMO] while the Internet radio station you want to register is playing.**

2 **Use △▽ to select "Favorites", then press ENTER.**

3 **Press ◁ to select "Yes".**
The Internet radio station is registered.
If you do not want to register it, press ▷.

Listening to Internet Radio Stations Registered in Your Favorites

1 **Use △▽ to select "Favorites", then press ENTER or ▷.**

2 **Use △▽ to select the Internet radio station, then press ENTER or ▷.**
The AVR-4308CI automatically connects to the Internet and playback begins.

Clearing Internet Radio Stations from Your Favorites

1 **Use △▽ to select "Favorites", then press ENTER or ▷.**

2 **Use △▽ to select the Internet radio station you want to clear, then press [MEMO].**

3 **Press ◁ to select "Delete".**
The selected Internet radio station is cleared.
To cancel the operation without clearing the station, press ▷.

Playing Files Stored on a Computer

Use this procedure to play music files, image files or playlists.

1 **Use △▽ to select the host name of the computer on which the music file you want to play is located, then press ENTER or ▷.**

2 **Use △▽ to select the search item or folder, then press ENTER or ▷.**
A "♪" mark is indicated in front of music files that can be played, and a "▣" mark is indicated in front of image files that can be played.

3 **Use △▽ to select the file, then press ENTER or ▷.**
Playback starts once buffering reaches "100%".

Selecting tracks

During playback, either press △ (previous track) or ▽ (next track).

✎
• When playing still picture (JPEG) files, files can also be selected using the operation described below.
 During playback, either press **[▲]** (previous file) or **[▼]** (next file).
• Connections to the required system and specific settings must be made in order to play music files (☞ page 20).
• Before starting, you must launch the computer's server software and set the files as server contents. For details, see the operating instructions of your server software.
• Depending on the size of the still picture (JPEG) file, some time may be required for the file to be displayed.

Playing files that have been Preset or Registered in Your Favorites

Files can be preset, registered in your favorites and played using the same operations as for Internet radio stations.

NOTE
• Presettings are erased by overwriting them.
• When the operation described below is performed, the music server's database is updated and it may no longer be possible to play preset or favorite music files.
 • When you quit the music server and then restart it.
 • When music files are deleted or added on the music server.
• When using an ESCIENT server, place "ESCIENT" before the server name.

Playing Files Stored on USB Memory Devices

Only USB memory devices conforming to mass storage class and MTP (Media Transfer Protocol) standards can be played on the AVR-4308CI.

Basic Operation

1 **Make the necessary preparations.**
 • Set the USB port to be used.

 GUI : **"Source Select"** – **"NET/USB"** – **"Playback Mode"** –
 "USB Select" (☞ page 40)

 • Connect the USB memory device to the set USB port.

2 **Use △▽ to select "USB", then press ENTER or ▷.**

3 **Use △▽ to select the search item or folder, then press ENTER or ▷.**
A "♪" mark is indicated in front of music files that can be played, and a "▣" mark is indicated in front of image files that can be played.

4 **Use △▽ to select the file, then press ENTER or ▷.**
Playback starts once buffering reaches "100%".

✎
• By default, the front panel's USB port will be used.
• Depending on the size of the still picture (JPEG) file, some time may be required for the file to be displayed.

Playing repeatedly

Press **[REPEAT]** on the sub remote control unit.

[Selectable items] All One OFF

> **GUI** : **"Source Select"** – **"NET/USB"** – **"Playback Mode"** –
> **"Repeat"** (☞ page 40)

Playing in random order

Press **[RANDOM]** on the sub remote control unit.

[Selectable items] Albums Songs OFF

> **GUI** : **"Source Select"** – **"NET/USB"** – **"Playback Mode"** –
> **"Random"** (☞ page 40)

Selecting tracks

During playback, either press △ (previous track) or ▽ (next track).

✎
• When playing still picture (JPEG) files, tracks can also be selected using the operation described below.
  During playback, either press **[▲]** (previous file) or **[▼]** (next file).
• If the USB memory device is divided into multiple partitions, only the top partition can be selected.
• The AVR-4308CI is compatible with MP3 files conforming to "MPEG-1 Audio Layer-3" standards.
• If **[USB]** on the sub remote control unit is pressed when the USB memory device or folder is selected, all the tracks on the USB memory device or in the folder are played.

NOTE
• The AVR-4308CI is equipped with two USB ports, one each on the front and rear panels. It is not possible to use the set with USB memory devices connected to both the ports at the same time. Select the USB port you want to use at the "Source Select" – "NET/USB" – "Playback Mode" – "USB Select" menu.
• DENON will accept no responsibility whatsoever for any loss or damage to data on USB memory devices when using the USB memory device connected to the AVR-4308CI.
• USB memory devices will not work via a USB hub.
• DENON does not guarantee that all USB memory devices will operate or receive power. When using a USB connection type portable hard disk of the type for which power can be supplied by connecting an AC adapter, we recommend using the AC adapter.
• It is not possible to connect and use a computer via the AVR-4308CI's USB port using a USB cable.
• The AVR-4308CI is not compatible with the iPod shuffle.
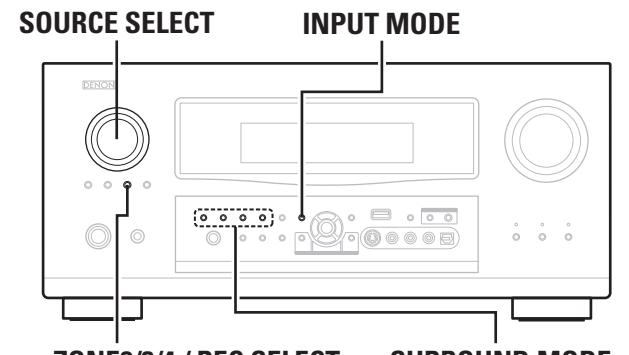
SOURCE SELECT　　**INPUT MODE**
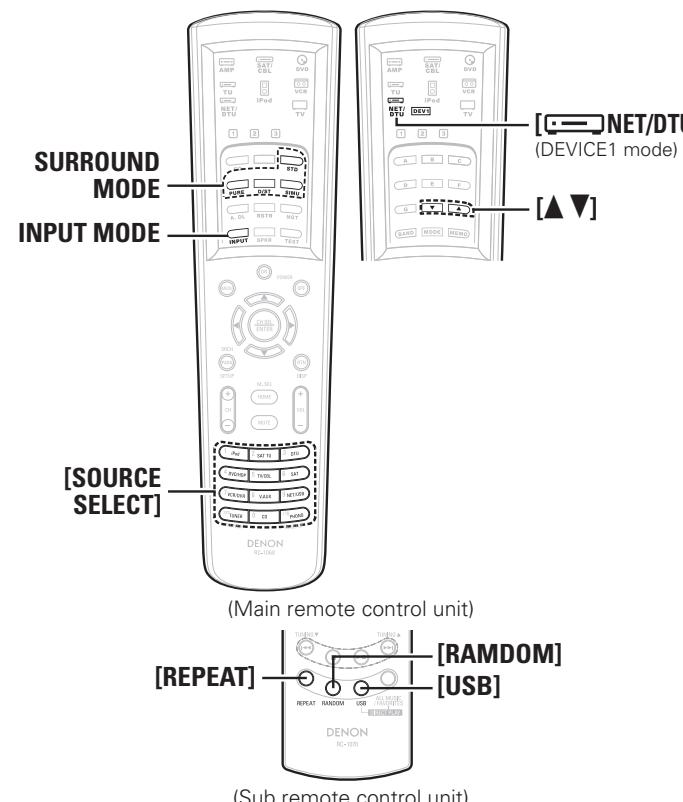
<ZONE2/3/4 / REC SELECT>　　**SURROUND MODE**

SURROUND MODE
INPUT MODE
[SOURCE SELECT]

(Main remote control unit)

[NET/DTU]
(DEVICE1 mode)
[▲ ▼]

[REPEAT]　**[RANDOM]**　**[USB]**

(Sub remote control unit)

About the button names in these explanations
< > : Buttons on the main unit
[ ] : Buttons on the remote control unit
Button name only:
Buttons on the main unit and remote control unit

Operating the AVR-4308CI Using a Browser (Web control)

This function lets you operate the AVR-4308CI using Internet Explorer.

1 **Check the AVR-4308CI's IP address.**

> **GUI** : **"Manual Setup"** – **"Network Setup"** –
> **"Network Information"** (☞ page 34)

2 **Input the AVR-4308CI's IP address in Internet Explorer.**
The AVR-4308CI can be operated in the same way as with regular Internet browsing.

✎
To use the web control function, set the GUI menu "Manual Setup"–"Network Setup" – "Other" – "Power Saving" setting to "OFF" (☞ page 34).

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Other Operations and Functions

Other Operations

Playing Super Audio CDs

1 **At the "Digital" or "HDMI" setting (☞ page 40), select the input source for which "DENON LINK" or "HDMI" is assigned.**
The " D.LINK " or " HDMI " indicator lights on the display.

2 **Use INPUT MODE to select "Auto" (☞ page 39).**
Select the input mode according to the program source to be played.

3 **Select the surround mode (☞ page 41, 42).**
We recommend playing in the DIRECT mode.

4 **Start playing the Super Audio CD.**
The " DSD " indicator lights on the display.
For operating instructions, refer to the respective equipment's operating instructions.

🖉

• When playing DSD signals in the DIRECT or PURE DIRECT mode, the DSD signals are converted as such into analog signals. When playing in other surround modes, the DSD signals are first converted into PCM format, then into analog signals.
• "DSD DIRECT" is shown on the display when playing DSD 2-channel signals in the DIRECT mode. "DSD MULTI DIRECT" is shown on the display when playing DSD multi--channel signals in the DIRECT mode.

Recording on an External Device (REC OUT mode)

You can listen to one program source while recording a different program source.

1 **Press <ZONE2/3/4 / REC SELECT>.**
"ZONE2 SOURCE" is shown on the display.

ZONE2 SOURCE ←→ ZONE2 TUNER ←→ .... ←→ ZONE2 HD Radio
↕
RECOUT HD Radio ←→ RECOUT XM ←→ .... ←→ RECOUT SOURCE
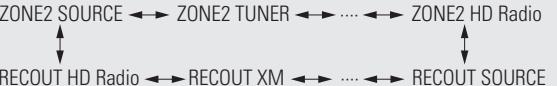
2 **Turn <SOURCE SELECT> until "RECOUT SOURCE" is displayed.**
The " REC " indicator lights.

3 **Turn <SOURCE SELECT> to choose the input source to be recorded.**

4 **Play the program source.**
For operating instructions, refer to the respective equipment's operating instructions.
To record FM or AM broadcasts, select the broadcast (☞ page 48).

5 **Start recording.**
For operating instructions, refer to the respective equipment's operating instructions.

🖉

• To cancel, press <ZONE2/3/4 / REC SELECT>, then turn <SOURCE SELECT> until "ZONE2 SOURCE" is displayed.
• Make a test recording before starting the actual recording.
• Signals are only output to the analog REC OUT connectors when the digital signals input to the digital input connectors (OPTICAL/COAXIAL) are PCM (2-channel) signals.
• Digital audio signals input to the DENON LINK or HDMI connectors are not output to the REC OUT connectors, so connect using the OPTICAL or COAXIAL connectors.
• Sources selected with the REC OUT mode are output from ZONE2 as well.
• In the REC OUT mode, the main remote control unit's ZONE2 mode buttons cannot be operated.
• When the "Digital Out" setting is set to "ZONE4 Select", the OPTICAL3 output connector becomes the ZONE4 output. When using for recording, set to "Rec Select".
• The "XM" and "HD Radio" digital audio output signals are not output from the OPTICAL2 or OPTICAL3 output connectors. Also, network audio signals (Internet radio, music server, USB) are not output if they are copyright-protected.

NOTE

• Recordings you make are for your personal enjoyment and should not be used for other purposes without permission of the copyright holder.
• When "DENON LINK" is assigned at the GUI menu "Assign" setting, the PCM signals, network audio signals (Internet radio, music server and USB), XM signals and HD Radio signals input from the digital input connectors cannot be output from the analog REC OUT connectors.
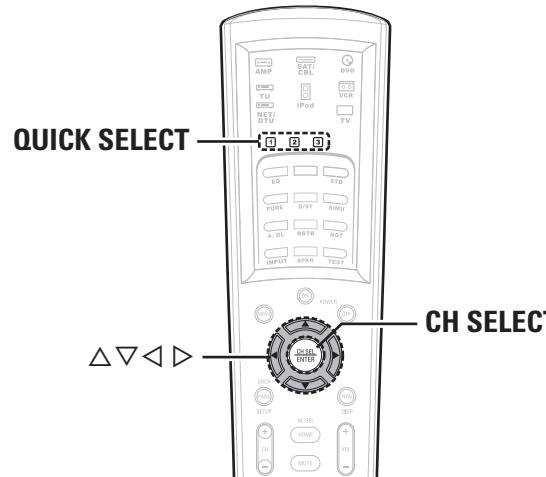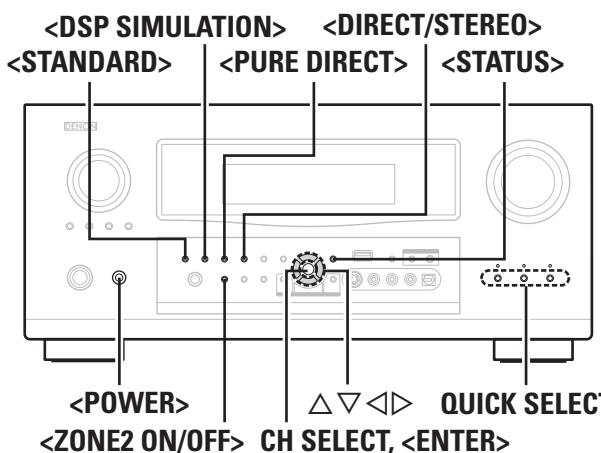
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<DSP SIMULATION>   **<DIRECT/STEREO>**
<STANDARD>   **<PURE DIRECT>**   **<STATUS>**

<POWER>   △▽◁▷   **QUICK SELECT**
<ZONE2 ON/OFF>   **CH SELECT, <ENTER>**

QUICK SELECT ——

CH SELECT

△▽◁ ▷

About the button names in these explanations

< > : Buttons on the main unit
[ ] : Buttons on the remote control unit
Button name only:
Buttons on the main unit and remote control unit

Convenient Functions

Channel Level

You can adjust the channel level either according to the playback sources or to suit your taste, as described below.

1 **Press CH SELECT.**

2 **Use △▽ or CH SELECT to select the speaker.**
The speaker that can be set switches each time one of the buttons is pressed.

3 **Use ◁ ▷ to adjust the volume.**

※ "OFF" can be set by pressing ◁ when the subwoofer's volume is set to –12 dB.

Fader Function

This function lets you adjust (fade) the sound from all the front or rear speakers at once.

1 **Press CH SELECT.**

2 **Press △▽ or CH SELECT to select "FADER".**

3 **Use ◁ ▷ to adjust the volume of the speakers.**
(◁: front, ▷: rear)

🖉

• The fader function does not affect the subwoofer.
• The fader can be adjusted until the volume of the speaker adjusted to the lowest value is –12 dB.

Quick Select Function

With this function, the currently playing input source, input mode, surround mode, room EQ settings and volume can be stored in the memory.

1 **Set the input source, input mode, surround mode, room EQ settings and volume to the conditions you want to store.**

2 **Press and hold the desired QUICK SELECT.**
Keep pressing the button until the quick select indicator lights.

[Quick Select Defaults]

	Input Source	Volume
Quick Select 1	DVD	–40 dB
Quick Select 2	TV/CBL	–40 dB
Quick Select 3	VCR	–40 dB

🖉

• To call out the settings, press **QUICK SELECT** at which the desired settings were stored.
• The Quick Select name can be changed (☞page 35).

NOTE

Input sources stored with the quick select function cannot be selected if they have been deleted at GUI menu "Manual Setup" – "Option Setup" – "Source Delete" (☞page 35). In this case, store them again.

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Personal Memory Plus Function

This function sets the settings (input mode, surround mode, etc.) last selected for the individual input sources. When you switch to an input source, the settings are automatically set to the ones that were set the last time that input source was used.

🖊

The surround parameters, tone adjustment, room EQ settings and the volumes of the different speakers are stored for the individual surround modes.

Last Function Memory

This stores the settings as they were directly before the standby mode was set.

When the power is turned back on, the settings are restored to as they were directly before the standby mode was set.

Backup Memory

The various settings are backed up for about 1 week, even if the power is turned off or the power cord is disconnected.

Panel Lock Mode

The buttons on the main unit can be locked if not using them.

Locking operation of all the main unit buttons

When this is set, none of the buttons on the main unit can be used.

1 **Turn off the power using <POWER>.**

2 **Press <POWER> while simultaneously pressing <DSP SIMULATION> and <ZONE2 ON/OFF>.**

To operate <MASTER VOLUME> only

1 **Turn off the power using <POWER>.**

2 **Press <POWER> while simultaneously pressing <DIRECT/STEREO> and <ZONE2 ON/OFF>.**

🖊

Perform the operation below to cancel the setting.
① Press **<POWER>**.
② Press **<POWER>** while simultaneously pressing **<PURE DIRECT>** and **<ZONE2 ON/OFF>**.

Remote Lock Mode

This setting can be made so that the remote control unit cannot operate the AVR-4308CI, for example when not using it, etc.

1 **Turn off the power using <POWER>.**

2 **Press <POWER> while simultaneously pressing <STATUS> and <ENTER>.**
"Remote Lock" appears on the display.

🖊

To cancel, perform the same operation as above.

Resetting the Microprocessor

Perform this procedure if the display is abnormal or if operations cannot be performed.

When the microprocessor is reset, all the settings are reset to their default values.

1 **Turn off the power using <POWER>.**

2 **Press <POWER> while simultaneously pressing <STANDARD> and <DSP SIMULATION>.**

3 **Once the display starts flashing at intervals of about 1 second, release the two buttons.**

🖊

If in step 3 the display does not flash at intervals of about 1 second, start over from step 1.

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Remote Control Unit Operations

Main Remote Control Unit

• On the main remote control unit, the display switches according to the device being operated and the mode.

• In modes other than iPod, the mode switches between "DEVICE1" and "DEVICE2" each time the **[MODE SELECTOR]** is pressed.

• In the AMP, TUNER, NET/DTU and iPod modes, when the remote ID is set, the AVR-4308CI can be used independently even in an environment containing multiple DENON amplifiers.

Signal transmission indicator

[AMP]

[MODE SELECTOR]

[HOME]

[NUMBER]

[RC SETUP]

Depending on the model and year of manufacture of your equipment, some buttons may not operate.

NOTE

The device mode ("DEVICE1" or "DEVICE2") cannot be changed while the setting is being made.
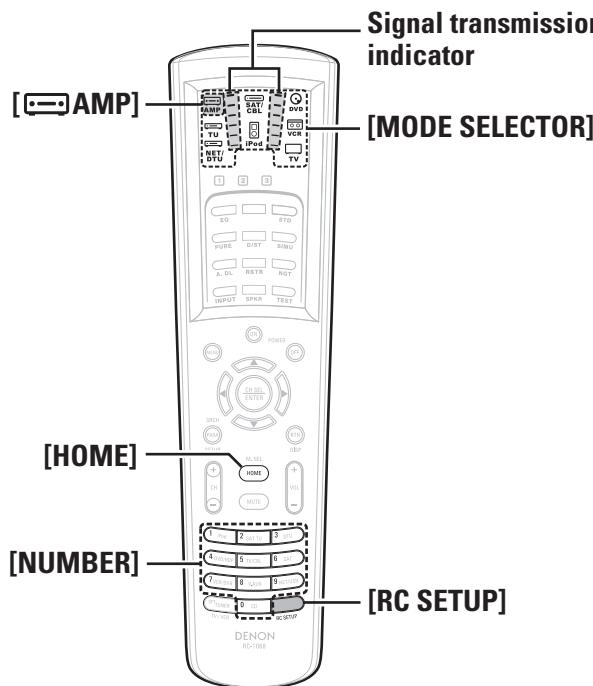
Operating DENON Audio Components

1 Press **[MODE SELECTOR]** for the component to be operated.

The indicator for the component to be operated flashes.

AMP : AMP / ZONE2 / ZONE3 / ZONE4 / SYSTEM CALL

iPod : iPod

TU : TUNER (FM/AM) / XM

DVD : DVD player (Recorder) / CD player (Recorder)

NET/ DTU : NETWORK/USB / DIGITAL TUNER (HD Radio)

VCR : VCR / TAPE

SAT/ CBL : Satellite Receiver / Cable TV

TV : TV

※ The mode switches each time **[AMP]** is pressed.

[AMP mode]   **[ZONE2 mode]**   **[ZONE3 mode]**

[SYSTEM CALL mode]   **[ZONE4 mode]**
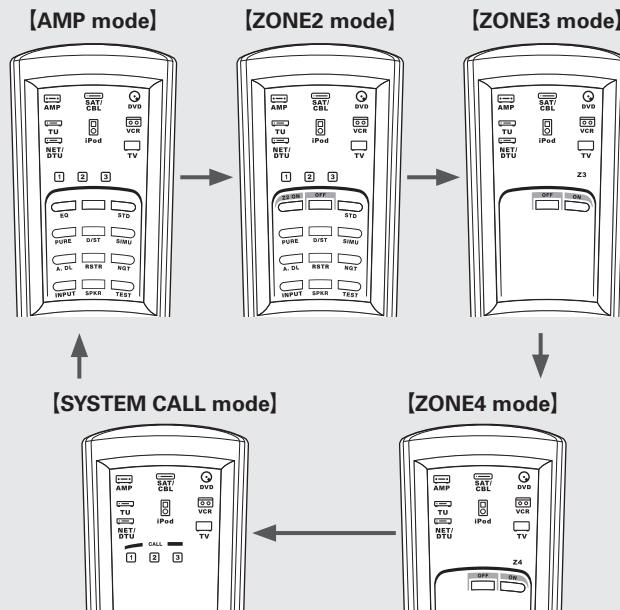
2 Operate the component.

※ For details, refer to the component's operating instructions.

[HOME] is used to return to the AMP mode (AMP, ZONE2, ZONE3, ZONE4 or SYSTEM CALL) when in any mode other than AMP.

Presetting

The included main remote control unit can be preset to operate devices of various brands.

1 Press **[MODE SELECTOR]** for the device you want to preset.

2 Press and hold in **[RC SETUP]** for at least 3 seconds. The signal transmission indicator flashes twice.

3 Press **[NUMBER]** and input the 5-digit number of the brand of the component to be preset. The numbers are shown in the Preset Code Table (☞ End of the this manual).

When the code is registered, the signal transmission indicator flashes twice.

When the preset code is transmitted, the mode indicator for the component to which that code belongs flashes.

※ The input mode is canceled if no button is operated for 10 seconds.

Some brands have more than one preset code. If the component does not operate, try inputting a different code.

Operating Preset Components

1 Press **[MODE SELECTOR]** for the component to be operated.

The mode indicator of the device to be operated flashes.

2 Operate the component.

※ For details, refer to the component's operating instructions.

Functions of Buttons by Component

EL Display

[▶],
[I◀◀ ▶▶I],
[◀◀ ▶▶], [II],
[■],
[SOURCE ON],
[SOURCE OFF]

[MENU] — [ENTER]

[SETUP/
SEARCH] — [△ ▽ ◁ ▷]
[RETURN]

[CH + /
SHUFFLE],
[CH – /
REPEAT] — [0 ~ 9, +10]

Buttons

	EL Display						
MODE SELECTOR	**DVD**				**VCR**		**iPod**
Device Mode	**DEVICE 1**		**DEVICE 2**		**DEVICE 1**	**DEVICE 2**	**DEVICE 1**
Device operated	**DVD** (Default setting)	**DVD Recorder**	**CD** (Default setting)	**CD Recorder**	**VCR**	**TAPE**	**iPod**
▶	Playback	Playback	Playback	Playback	Playback	Playback	Playback/Pause
I◀◀ ▶▶I	Auto search (cue)	Auto search (cue)	Auto search (cue)	Auto search (cue)	Auto search (cue)	Auto search (cue)	Auto search (cue)
◀◀ ▶▶	Manual search (fast-reverse/fast-forward)	Manual search (fast-reverse/fast-forward)	Manual search (fast-reverse/fast-forward)	Manual search (fast-reverse/fast-forward)	Manual search (fast-reverse/fast-forward)	Manual search (fast-reverse/fast-forward)	Manual search (fast-reverse/fast-forward)
II	Pause	Pause	Pause	Pause	Pause	Pause	–
■	Stop	Stop	Stop	Stop	Stop	Stop	Stop
SOURCE ON	Power on	Power on	–	–	Power on	–	–
SOURCE OFF	Power off	Power off	–	–	Power off	–	–
	Buttons						
MENU	Menu/guide	Menu/guide	–	–	Menu/guide	–	Menu
△ ▽ ◁ ▷	Cursor	Cursor	–	–	Cursor	–	Cursor
ENTER	Enter setting	Enter setting	–	–	Enter setting	–	Enter
SETUP/SEARCH	Set up	Set up	–	–	Set up	–	Page forward screen / Browse/ Remote mode switching (Press and hold)
RETURN	Return	Return	–	–	Cancel	–	Return
CH + / SHUFFLE	–	–	–	–	Switch channels	–	1-track/album shuffle play
CH - / REPEAT	–	–	–	–	Switch channels	–	1-track/All-track repeat play
0 ~ 9, +10	Select track	Select track	Select track	Select track	–	–	–
Special Remarks	①, ②		①		①	①	–

【Special Remarks】
① Only one component can be preset for each mode. If a new code is preset, the previous code is automatically cleared.
② The names of the functions for the DVD remote control buttons differ from brand to brand. Check beforehand.

NOTE

• Preset a DVD player or DVD recorder for the "DVD" – "DEVICE1" mode. Preset a CD player or CD recorder for the "DVD" – "DEVICE2" mode.
• Preset a VCR for the "VCR" – "DEVICE1" mode. Preset a tape deck for the "VCR" – "DEVICE2" mode.

EL Display

[▶],
[I◀◀ ▶▶I],
[◀◀ ▶▶], [II],
[■],
[SOURCE ON],
[SOURCE OFF]

[MENU] — [ENTER]
[△▽◁▷]
[SETUP] — [DISPLAY]
[CH +/–]
[0 ~ 9, +10]
[TV/VCR]

Buttons

EL Display

[A ~ G], [▲ ▼],
[BAND],
[MODE],
[MEMO]

[ENTER]
[△▽◁▷]
[SEARCH]
[CH +/–]
[0 ~ 9]
[SHIFT]

Buttons
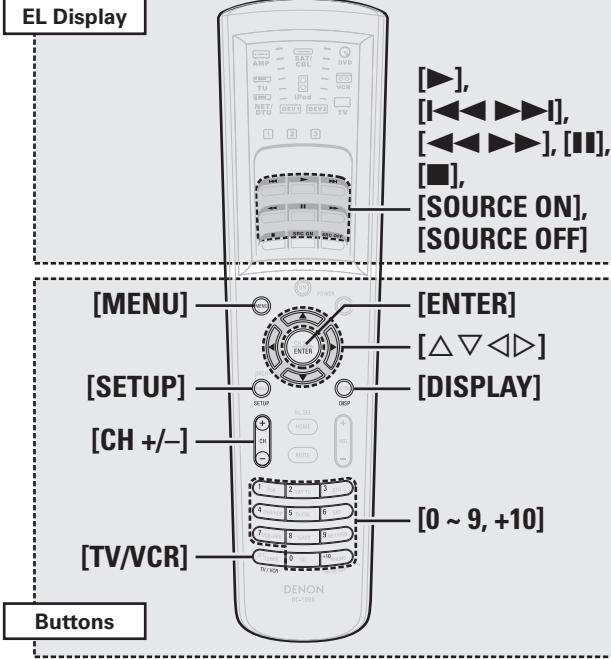
EL Display				
MODE SELECTOR	**TV**		**Satellite Receiver / Cable TV**	
Device Mode	**DEVICE 1**	**DEVICE 2**	**DEVICE 1**	**DEVICE 2**
Device operated	**TV (HITACHI)**	**TV (SONY)**	**SAT**	**SAT**
▶				
I◀◀ ▶▶I				
◀◀ ▶▶	Punch through	Punch through	Punch through	Punch through
II				
■				
SOURCE ON	Power on	Power on	Power on	Power on
SOURCE OFF	Power off	Power off	Power off	Power off
Buttons				
MENU	Menu/guide	Menu/guide	Menu/guide	Menu/guide
△ ▽ ◁ ▷	Cursor	Cursor	Cursor	Cursor
ENTER	Enter setting	Enter setting	Enter setting	Enter setting
SETUP	Set up	Set up	Set up	Set up
DISPLAY	Display	Display	Display	Display
CH + / –	Switch channels	Switch channels	Switch channels	Switch channels
0 ~ 9, +10	Channel selection	Channel selection	Channel selection	Channel selection
TV/VCR	Switch inputs	Switch inputs	–	–
Special Remarks	①, ③	①, ③	①, ③	①, ③

【Special Remarks】
① Only one component can be preset for each mode. If a new code is preset, the previous code is automatically cleared.
③ The CD, VCR or DVD buttons (one only set) can be assigned to the monitor, satellite receiver and cable TV (☞ page 65 "Punch Through Function").
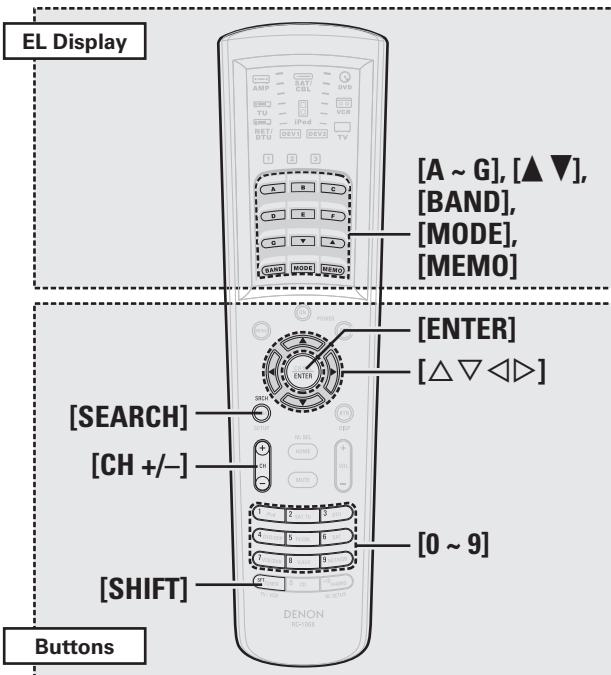
EL Display				
MODE SELECTOR	**TU**		**NET / DTU**	
Device Mode	**DEVICE 1**	**DEVICE 2**	**DEVICE 1**	**DEVICE 2**
Device operated	**Analog tuner**	**XM**	**NET / USB**	**HD Radio**
A ~ G	Preset memory block selection	Preset memory block selection	Preset memory block selection	Preset memory block selection
▲ ▼	Tuning + / –	Channel selection	–	Tuning + / –
BAND	AM/FM switching	–	–	AM/FM switching
MODE	Switch search modes	–	–	Switch search modes
MEMO	Preset memory registration	Preset memory registration	Preset memory registration	Preset memory registration
Buttons				
△ ▽ ◁ ▷	–	Category search	Cursor	Multicast switching (△▽)
ENTER	–	–	Enter, Playback/Pause	–
SEARCH	–	Direct search	Search	Multicast switching
CH + / –	Preset channel selection	Preset channel selection	Preset channel selection	Preset channel selection
0 ~ 9	Preset channel selection (1 ~ 8)	Preset channel selection (1 ~ 8) / Direct channel search (0 ~ 9)	Preset channel selection (1 ~ 8)	Preset channel selection (1 ~ 8)
SHIFT	Switch memory block	Switch memory block	Switch memory block	Switch memory block

Signal transmission indicator

[⊟AMP]
[⊟TU]
[⊟NET/DTU]

[MODE SELECTOR]

[⊟iPod]

[NUMBER]

[RC SETUP]

MODE SELECTOR / Remote ID	AMP (MAIN)	TUNER		iPod	NET/DTU	
		DEVICE 1 (Analog TUNER)	DEVICE 2 (XM)		DEVICE 1 (Net Audio)	DEVICE 2 (HD Radio)
1 (Default)	81001	52863	52864	72815	62865	62840
2	82001	52795	52812	72816	62837	62841
3	83001	52800	52813	72817	62838	62842
4	84001	52805	52814	72818	62839	62843

NOTE

• When changing a setting, be sure to set the same remote ID as the AVR-4308CI's (☞ page 36).
• When changing the AMP mode's remote ID, also change the "TUNER", "iPod" and "NET/DTU" remote ID at the same time.
• Set the remote ID of an analog tuner for "TUNER" – "DEVICE1", the XM remote ID for "DEVICE2".

Learning Function

If your AV devices are of a brand other than DENON or if they cannot be operated with the preset memory function, their remote control signals can be transfered to stored in the AVR-4308CI's main remote control unit.

1 **Press [MODE SELECTOR] for the device you want to set.**

2 **Press and hold in [RC SETUP] for at least 3 seconds.**
The signal transmission indicator flashes twice.

3 **Press [9], [7] and [5], in that order.**
The signal transmission indicator flashes twice and the learning mode is set.

4 **Press the button to be set.**
The main remote control unit's display turns off.

※ If a button that cannot be learned is pressed, the signal transmission indicator lights but the signal is not learned.

Setting the Remote ID

When using multiple DENON AV receivers in the same room, make this setting so that only the desired AV receiver operates.

1 **Press [AMP] to set the main remote control unit to the AMP mode.**

2 **Press and hold in [RC SETUP] for at least 3 seconds.**
The signal transmission indicator flashes twice.

3 **Refer to the table at the right, and use [NUMBER] to input the 5-digit number corresponding to the remote ID to be changed.**
The signal transmission indicator flashes twice.

4 **Press [TU], [iPod] or [NET/DTU] to select the mode to be set.**

5 **Repeat steps 2 to 4 to set the remote IDs for all modes.**

5 **Point the main remote control units directly at each other and press and hold the button on the other device's remote control unit that you want to learn.**
Once learning is completed normally, the display lights and the signal transmission indicator flashes twice.

Other device's remote control unit
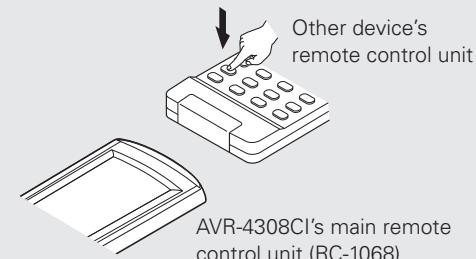
AVR-4308CI's main remote control unit (RC-1068)

※ If you want to learn other buttons, repeat steps 4 and 5.
※ The mode can be switched by pressing [MODE SELECTOR].
※ The signal transmission indicator lights once for a long time if learning was not possible

6 **Press and hold in [RC SETUP] for at least 3 seconds.**
The signal transmission indicator flashes twice and the setting is completed.

• With some remote control units, the signals cannot be learned or the device will not operate properly even when the signals have been learned. In this case, use the device's own remote control unit.
• Learned buttons have priority over the preset memory. If you no longer need the learned setting, reset the learning function (☞ page 66).

NOTE

• [HOME] cannot be learned.
• Do not learn any remote control signals at [RC SETUP].
• The AMP, ZONE2, ZONE3, ZONE4 and SYSTEM CALL modes cannot be learned.

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Signal transmission indicator

[⊡AMP]

[MODE SELECTOR]

[SYSTEM CALL]

[POWER ON]

[CHANNEL+/–]

[NUMBER]

[RC SETUP]

[☐TV]

[I◄◄], [►►I],
[►],
[◄◄], [►►],
[II], [■]
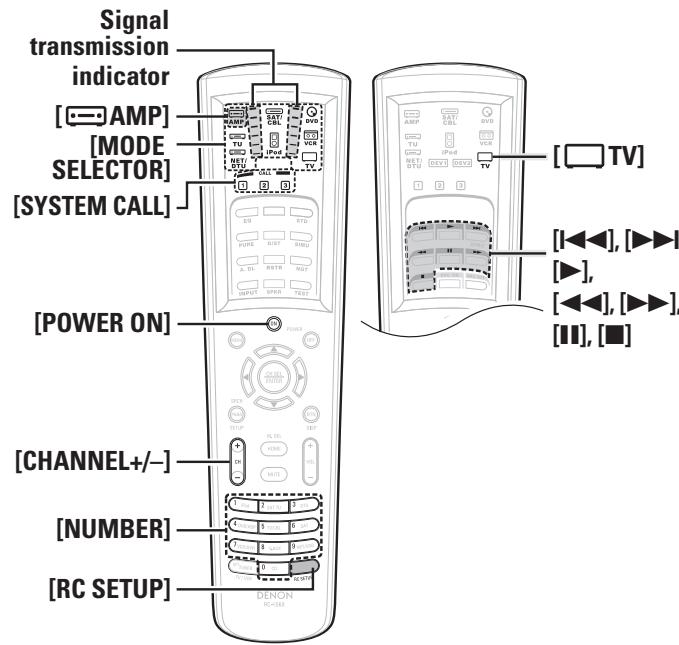
System Call Function

This function lets you register a series of operations at a single button.

For example, the amplifier can be turned on, the input source selected, the monitor's power turned on, the source device's power turned on and the play mode set all by pressing a single button.

Up to 32 signals each can be registered at **[SYSTEM CALL]** (**1, 2** or **3**).

Registering

1 Press **[MODE SELECTOR]** for the device you want to register.

2 Press and hold in **[RC SETUP]** for at least 3 seconds.
The signal transmission indicator flashes twice.

3 Press **[9]**, **[7]** and **[8]**, in that order.
The signal transmission indicator flashes twice and the system call registration mode is set.

4 Press **[SYSTEM CALL]** (**1, 2 or 3**) at which you want to register the signals.

5 Press the buttons you want to register in the same sequence as the operations you want to perform.
The signal transmission indicator lights when a button is pressed.
Example : Press **[POWER ON]**.
↓
Press **[MODE SELECTOR]** – **[DVD]**.
↓
Press **[►]**.
※ The mode can be switched by pressing **[MODE SELECTOR]**.
※ Perform the registration procedure for all the buttons you want to register.

6 Press and hold in **[RC SETUP]** for at least 3 seconds.
The signal transmission indicator flashes twice and the setting is completed.

Calling out

1 Press **[AMP]**, to select "SYSTEM CALL".

2 Press **[SYSTEM CALL]** (**1, 2 or 3**) at which the signals were registered.
The registered signals are transmitted in the registered sequence.

Punch Through Function

CD, DVD or VCR mode buttons can be stored at unused TV or SAT/CBL mode buttons.

For example, when DVD mode buttons are assigned to the TV mode, the DVD mode operations can be performed while in the TV mode.

1 Press **[MODE SELECTOR]** for the device you want to punch through (CD, DVD or VCR).

2 Press and hold in **[RC SETUP]** for at least 3 seconds.
The signal transmission indicator flashes twice.

3 Press **[9]**, **[8]** and **[4]**, in that order.
The signal transmission indicator flashes twice and the punch through setting mode is set.

4 Press the button you want to punch through (►, ■, ◄◄, ►►, I◄◄, ►►I or II).

5 Press **[MODE SELECTOR]** for the device you want to punch through (TV or SAT/CBL).

6 Press and hold in **[RC SETUP]** for at least 3 seconds.
The signal transmission indicator flashes twice and the setting is completed.

Setting the Time the Backlight Stays Lit

1 Press and hold in **[RC SETUP]** for at least 3 seconds.
The signal transmission indicator flashes twice.

2 Press **[9]**, **[7]** and **[3]**, in that order.
The signal transmission indicator flashes twice and the backlight on time setting mode is set.

3 Set the light on time.
The signal transmission indicator flashes twice.
[Settable times] : [1] : 5 sec.
[2] : 10 sec. (Default)
[3] : 15 sec.
[4] : 20 sec.
[5] : 25 sec.

Adjusting the Backlight's Brightness
The display's brightness can be adjusted in 5 steps.
(Default: Step 3)

1 **Press and hold in [RC SETUP] for at least 3 seconds.**
The signal transmission indicator flashes twice.

2 **Press [CHANNEL +] or [CHANNEL –].**
The display gets one step brighter when [+] is pressed.
The display gets one step darker when [–] is pressed.

3 **Press [RC SETUP] to complete the setting.**

Resetting the Main Remote Control Unit

Learning Function

【Resetting button by button】

1 **Press [MODE SELECTOR] for the device you want to reset.**

2 **Press and hold in [RC SETUP] for at least 3 seconds.**
The signal transmission indicator flashes twice.

3 **Press [9], [7] and [6], in that order.**
The signal transmission indicator flashes twice.

4 **Press the button you want to reset twice.**
The signal transmission indicator flashes twice.

【Resetting by device mode】

1 **Press [MODE SELECTOR] for the device you want to reset.**

2 **Press and hold in [RC SETUP] for at least 3 seconds.**
The signal transmission indicator flashes twice.

3 **Press [9], [7] and [6], in that order.**
The signal transmission indicator flashes twice.

4 **Press [MODE SELECTOR] for the device you want to reset twice.**
The signal transmission indicator flashes twice.

System call function

1 **Press and hold in [RC SETUP] for at least 3 seconds.**
The signal transmission indicator flashes twice.

2 **Press [9], [7] and [8], in that order.**
The signal transmission indicator flashes twice.

3 **Press [SYSTEM CALL] (1, 2 or 3) you want to reset.**

4 **Press and hold in [RC SETUP] for at least 3 seconds.**
The signal transmission indicator flashes twice.

Punch-through function

1 **Press [MODE SELECTOR] for the device you want to reset (TV or SAT/CBL).**

2 **Press and hold in [RC SETUP] for at least 3 seconds.**
The signal transmission indicator flashes twice.

3 **Press [9], [8] and [4], in that order.**
The signal transmission indicator flashes twice.

4 **Press and hold in [RC SETUP] for at least 3 seconds.**
The signal transmission indicator flashes twice.

All settings

1 **Press and hold in [RC SETUP] for at least 3 seconds.**
The signal transmission indicator flashes twice.

2 **Press [9], [8] and [1], in that order.**
The signal transmission indicator flashes 4 times.
All the settings are restored to their defaults.

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Sub Remote Control Unit Operations

• The sub remote control unit is equipped with frequently used buttons, so it can be used for simple remote control unit operations.

• The sub remote control unit can also be used for multi-zone, so you can use it to control the AVR-4308CI from other rooms.

• The operations listed below can be performed with the sub remote control unit.
 • Switching the input source
 • Adjusting the volume
 • Tuner (AM/FM), XM, HD Radio and iPod operations
 • NET/USB direct play
 • GUI menu and ZONE2 on-screen display operations
 • Zone power on/off

• It is not possible to operate devices other than the amplifier.

[ZONE SELECT]
[ZONE OFF]
[ZONE ON]
[SOURCE SELECT]
[CHANNEL +/–]
[VOLUME +/–]
[MUTE]
[SHIFT]
[MENU]
[ENTER]
[△▽◁▷]
[RETURN]
[SEARCH]
[I◀◀ ▶▶I], [■], [▶/II], [TUNING ▲▼]
[REPEAT]
[ALL MUSIC], [FAVORITES]
[RANDOM]
[USB]

Functions of Buttons by Component

Device operated	DVD, HDP, TV / CBL, DVR1, VCR, V.AUX, SAT, CD, PHONO				TUNER (AM/FM)				DTU (HD Radio)			
Zone selection	M	Z2	Z3	Z4	M	Z2	Z3	Z4	M	Z2	Z3	Z4
ZONE SELECT	Zone operation mode selection				Zone operation mode selection				Zone operation mode selection			
ZONE OFF	Power turned off (※1)				Power turned off (※1)				Power turned off (※1)			
ZONE ON	Power turned on (※1)				Power turned on (※1)				Power turned on (※1)			
SOURCE SELECT	Input source selection (※2)				Input source selection			–	Input source selection			–
CHANNEL + / –	–				Preset channel selection			–	Preset channel selection			–
SHIFT	–				Preset channel memory block selection			–	Preset channel memory block selection			–
VOLUME + / –	Adjustment of volume (※1)			–	Adjustment of volume (※1)			–	Adjustment of volume (※1)			–
MUTE	Muting (※1)			–	Muting (※1)			–	Muting (※1)			–
MENU	Selected zone menu			–	Selected zone menu			–	Selected zone menu			–
△ ▽ ◁ ▷	–				–				Multicast switching (△ ▽)			–
SEARCH	–				–				Multicast switching			–
I◀◀ ▶▶I, TUNING ▲ ▼	–				Tuning			–	Tuning			–
USB	※3			–	※3			–	※3			–
ALL MUSIC * (Music server only)	※4			–	※4			–	※4			–
FAVORITES *	※5			–	※5			–	※5			–

※1: Affects the currently selected zone.

※2: In ZONE4, it is not possible to select "XM", "HD Radio", or sources with no digital input signals ("TUNER", "PHONO", "iPod", etc.). Network audio signals (Internet radio, music server, USB) can be played as long as they are not copyright-protected.

※3: The input source switches to "NET/USB" and the files on the USB memory device are played.

※4: The input source switches to "NET/USB" and the files in "All Music" on the music server are played.

※5: The input source switches to "NET/USB" and the files in "Favorites" are played.

*: Whether "All Music" or "Favorites" is selected depends on the "Direct Play" setting (☞page 40).

DIRECT PLAY button

• Playback is possible in the mode selected at GUI menu "Source Select" – "NET/USB" – "Playback Mode" – "Direct Play".
 FAVORITES: Playback starts from the first track registered in the favorites.
 ALL MUSIC: Playback starts from the first track registered in the "All Music" folder.

• When **[USB]** is pressed, playback starts from the first track on the USB memory device.

NOTE

When the music server is stopped or restarted, it may no longer be possible to play tracks stored in the favorites.

Device operated	SAT TU (XM)				NET / USB				iPod			
Zone selection	M	Z2	Z3	Z4	M	Z2	Z3	Z4	M	Z2	Z3	Z4
ZONE SELECT	Zone operation mode selection				Zone operation mode selection				Zone operation mode selection			
ZONE OFF	Power turned off (※1)				Power turned off (※1)				Power turned off (※1)			
ZONE ON	Power turned on (※1)				Power turned on (※1)				Power turned on (※1)			
SOURCE SELECT	Input source selection			–	Input source selection (※2)				Input source selection			–
CHANNEL + / –	Preset channel selection			–	Preset channel selection				–			
SHIFT	Preset channel memory block selection			–	Preset channel memory block selection				–			
VOLUME + / –	Adjustment of volume (※1)			–	Adjustment of volume (※1)			–	Adjustment of volume (※1)			–
MUTE	Muting (※1)			–	Muting (※1)			–	Muting (※1)			–
MENU	Selected zone menu			–	Selected zone menu			–	Selected zone menu			–
△ ▽ ◁ ▷	Category search			–	File operations			–	File operations			–
ENTER	–				File operations			–	File operations			–
SEARCH	–				Page forward screen / Character search			–	Page forward screen / Browse/Remote mode switching (press and hold)			–
RETURN	–				File operations			–	–			
◄◄ ►►┃, TUNING ▲ ▼	Channel selection			–	Track search				Track search			–
■	–				Stop				Stop			–
►/❚❚	–				Play/pause				Play/pause			–
REPEAT	–				1-track/All-track repeat play (USB)				1-track/All-track repeat play			–
RANDOM	–				1-track random play (USB)				1-track/album shuffle play			–
USB	※3			–	※3				※3			–
ALL MUSIC * (Music server only)	※4			–	※4				※4			–
FAVORITES *	※5			–	※5				※5			–

※1: Affects the currently selected zone.

※2: In ZONE4, it is not possible to select "XM", "HD Radio", or sources with no digital input signals ("TUNER", "PHONO", "iPod", etc.).
Network audio signals (Internet radio, music server, USB) can be played as long as they are not copyright-protected.

※3: The input source switches to "NET/USB" and the files on the USB memory device are played.

※4: The input source switches to "NET/USB" and the files in "All Music" on the music server are played.

※5: The input source switches to "NET/USB" and the files in "Favorites" are played.

*: Whether "All Music" or "Favorites" is selected depends on the "Direct Play" setting (☞page 40).

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Multi-zone indicator

[ZONE OFF]

[ZONE SELECT]

[ADVANCED SETUP]

[MENU]

[RANDOM]

[REPEAT]

[ALL MUSIC/FAVORITE]

[USB]

Setting the Zone for Which the Sub Remote Control Unit is Used (ZONE SELECT LOCK Mode)

We recommend always using the sub remote control unit for the same room. When this is done, the unit can be set so that the zone does not switch when buttons are operated.

1 **Use the tip of a pen to press [ADVANCED SETUP].**
All the multi-zone indicators light.

2 **Select the multi-zone to be set.**
The selected multi-zone indicator lights.

① To set to "MAIN ZONE" : Press **[REPEAT]**.
② To set to "ZONE2"   : Press **[RANDOM]**.
③ To set to "ZONE3"   : Press **[USB]**.
④ To set to "ZONE4"   : Press **[ALL MUSIC/FAVORITES]**.

3 **Use the tip of a pen to press [ADVANCED SETUP].**
The multi-zone indicator turns off.

To Cancel

1 **Use the tip of a pen to press [ADVANCED SETUP].**
The currently selected multi-zone indicator lights.

2 **Press [ZONE SELECT].**
All the multi-zone indicators light.

3 **Use the tip of a pen to press [ADVANCED SETUP].**
The multi-zone indicator turns off.

Switching Zones

Use this procedure to select the zone to be operated by the sub remote control unit.

1 **Press [ZONE SELECT].**
The currently selected multi-zone indicator lights.

2 **While the multi-zone indicator is light, press [ZONE SELECT] to select the zone to be operated.**
The currently selected multi-zone indicator lights.

Setting the Remote ID

When using multiple DENON AV receivers in the same room, make this setting so that no AV receiver other than the desired one operates.

1 **While pressing [MENU], press [ADVANCED SETUP] with the tip of a pen.**
The multi-zone indicator corresponding to the currently selected remote ID flashes.

2 **Select the remote ID to be set.**

① To set to 1 : Press **[REPEAT]**.
The "M" indicator flashes.
② To set to 2 : Press **[RANDOM]**.
The "Z2" indicator flashes.
③ To set to 3 : Press **[USB]**.
The "Z3" indicator flashes.
④ To set to 4 : Press **[ALL MUSIC/FAVORITES]**.
The "Z4" indicator flashes.

3 **While pressing [MENU], press [ADVANCED SETUP] with the tip of a pen.**
The multi-zone indicator turns off.

NOTE

When changing a setting, be sure to set the same remote ID as the AVR-4308CI's (☞ page 36).

Resetting the Settings

While pressing [ZONE OFF], press [ADVANCED SETUP] with the tip of a pen.
All the multi-zone indicators flash 4 times, then all the settings are restored to their defaults.

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Amp Assign / Multi Zone Connections and Operations

The AVR-4308CI is compatible with the following types of playback:
• **Multi-zone playback (ZONE2 & ZONE3)**
• **Bi-amp playback (front speaker)**
• **Bi-wiring playback (front speaker)**

NOTE

• For bi-amp and bi-wiring playback, use speakers compatible with that type of connection.
• When conducting bi-amp or bi-wiring playback, remove the short-circuiting boards (or wires) from the speaker terminals.

Multi-Zone Settings with the Amp Assign Function

The amp assign function lets you assign the amplifiers for the different channels built into the AVR-4308CI to the speaker outputs for the different zones.
Select the desired playback environment from among "Setting 1" to "Setting 6", then set the corresponding "Amp Assign" mode at GUI menu "Manual Setup" – "Option Setup" – "Amp Assign" (☞page 35).
Connect the speakers as described at "Amp Assign mode settings and speakers connected to the various speaker terminals".

✎ With "Setting 4" to "Setting 6", it is possible to switch the Amp Assign mode between the 7.1-channel mode and the multizone mode without changing the speaker connections.

Setting 1 : With this setting it is possible to switch between the following two playback modes.
● **7.1-channel playback**
● **Switching between bi-amp and bi-wiring playback using speakers exclusively for 2-channel playback**
   Switching ················Surround Mode switching
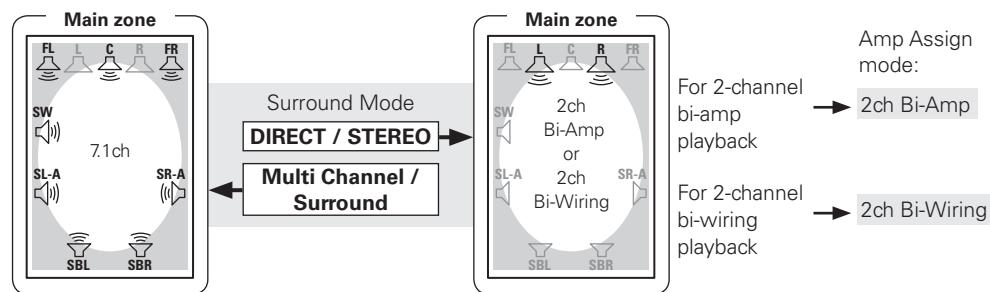
❏ **Amp Assign mode setting and speakers connected to the various speaker terminals**

Speaker terminal / Amp Assign mode	FRONT		CENTER	SURR-A		SURR. BACK		SURR-B/ AMP ASSIGN		AMP ASSIGN -2	
	R	L		R	L	R	L	R	L	R	L
7.1CH	FR	FL	C	SR-A	SL-A	SBR	SBL	–	–	–	–
2ch Bi-Amp	FR	FL	C	SR-A	SL-A	SBR	SBL	R	L	R	L
								2ch L/R Bi-Amp connection			
2ch Bi-Wiring								R	L	R	L
								2ch L/R Bi-Wiring connection			

Setting 2:
● **Making bi-amp connections for the FL and FR channels in the main zone and conducting 5.1-channel playback**
(switching with other modes not possible)

Both A and B can be installed for SR and SL.

Setting 3:
● **Making bi-wiring connections for the FL and FR channels in the main zone and conducting 7.1-channel playback**
(switching with other modes not possible)

Both A and B can be installed for SR and SL.

❏ **Amp Assign mode setting and speakers connected to the various speaker terminals**

Speaker terminal / Amp Assign mode	FRONT		CENTER	SURR-A		SURR. BACK		SURR-B/ AMP ASSIGN		AMP ASSIGN -2	
	R	L		R	L	R	L	R	L	R	L
Bi-Amp	FR	FL	C	SR-A	SL-A	–	–	SR-B	SL-B	FR	FL
										FL/FR Bi-Amp connection	
Bi-Wiring						SBR	SBL	SR-B	SL-B	FR	FL
										FL/FR Bi-Wiring connection	

Setting 4 : With this setting it is possible to switch between the following two playback modes.

● **7.1-channel playback**

● **Multi-zone playback**
- 5.1-channel playback + ZONE2 or ZONE3 stereo playback with bi-wiring connections
- 5.1-channel playback + ZONE2 monaural playback + ZONE3 monaural playback with bi-wiring connections

  Switching ·············· **ZONE2 ON/OFF** button, **ZONE3 ON/OFF** button

Both A and B can be installed for SR and SL.

Both A and B can be installed for SR and SL.

❏ **Amp Assign mode setting and speakers connected to the various speaker terminals**

Speaker terminal / Amp Assign mode	FRONT		CENTER	SURR-A		SURR. BACK		SURR-B/ AMP ASSIGN		AMP ASSIGN-2	
	R	L		R	L	R	L	R	L	R	L
7.1CH Bi-Wiring	FR	FL	C	SR-A	SL-A	SBR	SBL	FR / FL/FR Bi-Wiring connection	FL	–	–
Bi-Wiring & ZONE2	FR	FL	C	SR-A	SL-A	–	–	FR / FL/FR Bi-Wiring connection	FL	Z2R	Z2L
Bi-Wiring & ZONE3										Z3R	Z3L
Bi-Wiring & ZONE (MONO)										Z3 (MONO)	Z2 (MONO)

Setting 5 : With this setting it is possible to switch between the following two playback modes.

● **7.1-channel playback**

● **Multi-zone playback**
- 5.1-channel playback + ZONE2 or ZONE3 stereo playback
- 5.1-channel playback + ZONE2 monaural playback + ZONE3 monaural playback

  Switching ·············· **ZONE2 ON/OFF** button, **ZONE3 ON/OFF** button

Both A and B can be installed for SR and SL.

Both A and B can be installed for SR and SL.

❏ **Amp Assign mode setting and speakers connected to the various speaker terminals**

Speaker terminal / Amp Assign mode	FRONT		CENTER	SURR-A		SURR. BACK		SURR-B/ AMP ASSIGN		AMP ASSIGN-2	
	R	L		R	L	R	L	R	L	R	L
7.1CH	FR	FL	C	SR-A	SL-A	SBR	SBL	SR-B	SL-B	–	–
ZONE2	FR	FL	C	SR-A	SL-A	–	–	SR-B	SL-B	Z2R	Z2L
ZONE3										Z3R	Z3L
ZONE (MONO)										Z3 (MONO)	Z2 (MONO)

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Setting 6 : With this setting it is possible to switch between the following two playback modes.

● **7.1-channel playback**

● **Multi-zone playback**
   • 3.1-channel playback + ZONE2 stereo playback + ZONE3 stereo playback
   • 3.1-channel playback + ZONE2 monaural playback + ZONE3 monaural playback
   Switching ················**ZONE2 ON/OFF** button, **ZONE3 ON/OFF** button

✎
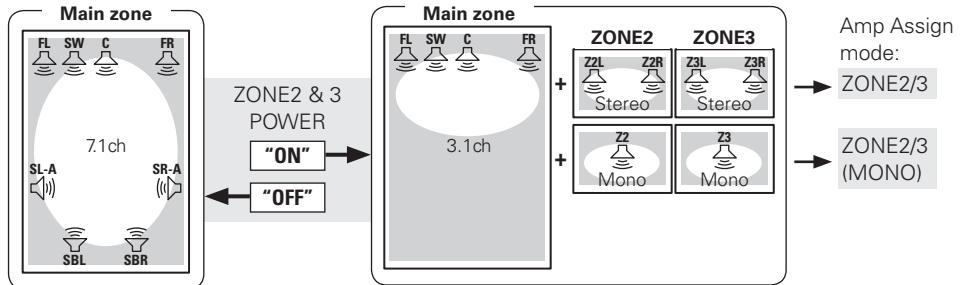
• When the **ZONE2 ON/OFF** button is set to "ON" and the **ZONE3 ON/OFF** button is set to "OFF", the main zone is set to 5.1-channel playback.
• When the **ZONE3 ON/OFF** button is set to "ON", the main zone is set to 3.1-channel playback.

❏ **Amp Assign mode setting and speakers connected to the various speaker terminals**

Speaker terminal / Amp Assign mode	FRONT		CENTER	SURR-A		SURR. BACK		SURR-B/ AMP ASSIGN		AMP ASSIGN-2	
	R	L		R	L	R	L	R	L	R	L
7.1CH	FR	FL	C	SR-A	SL-A	SBR	SBL	–	–	–	–
ZONE2/3	FR	FL	C	–	–	–	–	Z3R	Z3L	Z2R	Z2L
ZONE2/3(MONO)								Z3 (MONO)		Z2 (MONO)	

Multi-Zone Settings and Operations with Zone Pre-out Output

Prepare power amplifiers for ZONE2 and ZONE3, an amplifier that is compatible with bit-stream input for ZONE4.

	Connectors for audio output	Audio signals	Connectors for video output
ZONE2	ZONE2 PRE OUT	Stereo	ZONE2 VIDEO OUT, ZONE2 COMPONENT VIDEO OUT
ZONE3	ZONE3 PRE OUT	Stereo	–
ZONE4	ZONE4 OPTICAL3 OUT	Bit-stream	–

··········· : Multi-zone video cable

━━━━━ : Multi-zone audio cable

✎
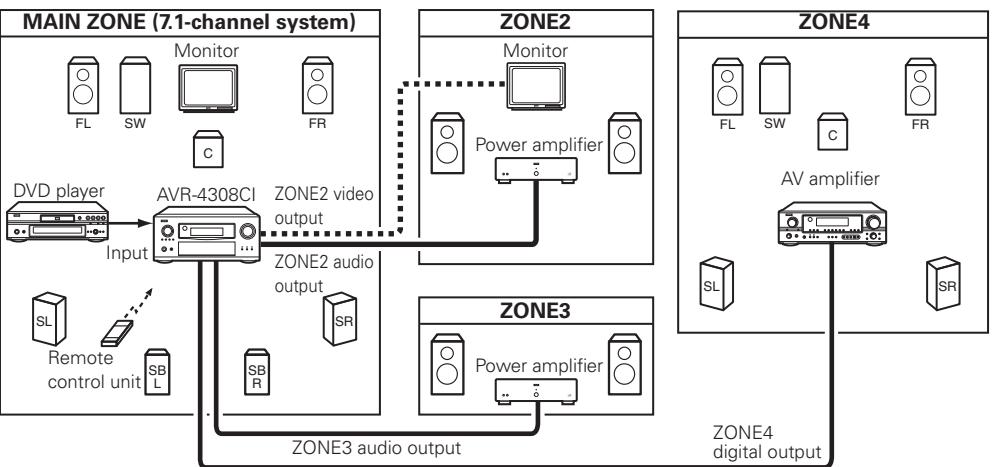
• When only using one speaker for ZONE2 or ZONE3, set to "Mono". In this case, the ZONE2 (ZONE3) monaural output is output from the ZONE2 (ZONE3) pre-out L and R connectors, so connect as desired.
• Separate power amplifiers are needed for ZONE2 and ZONE3.
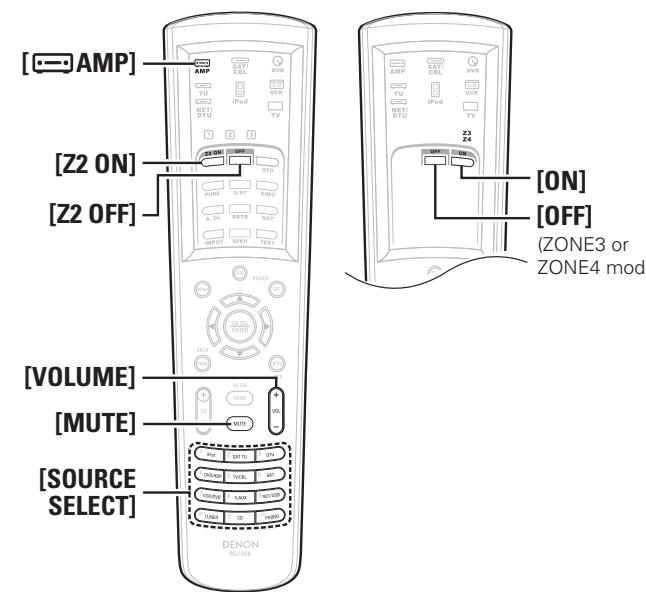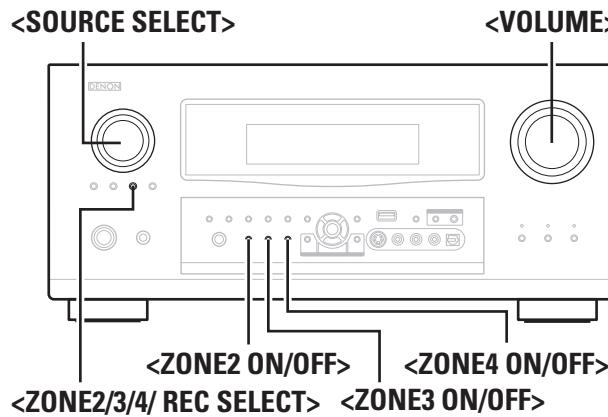
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<SOURCE SELECT>   <VOLUME>

<ZONE2 ON/OFF>   <ZONE4 ON/OFF>
<ZONE2/3/4/ REC SELECT>   <ZONE3 ON/OFF>

[▭AMP]

[Z2 ON]
[Z2 OFF]

[ON]
[OFF]
(ZONE3 or
ZONE4 mode)

[VOLUME]
[MUTE]

[SOURCE
SELECT]

About the button names in these explanations

< > : Buttons on the main unit
[ ] : Buttons on the remote control unit
Button name only:
Buttons on the main unit and remote control unit

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Multi-Zone Operations

Turning the Power On and Off

【Operation on the main unit】
Press **<ZONE2 ON/OFF>**, **<ZONE3 ON/OFF>** or **<ZONE4 ON/OFF>** for the zone to be operated.
When the power turns on, the multi-zone indicator lights on the display.

【Operation on the main remote control unit】
① Press **[AMP]** and select the zone mode to be operated.
② Press **[Z2 ON]** (ZONE2 mode), **[OFF]** or **[ON]** (ZONE3 or ZONE4 mode).

Selecting the Input Source

【Operation on the main unit】
① Press **<ZONE2/3/4 / REC SELECT>** and select the zone to be adjusted.
② Turn **<SOURCE SELECT>**.

【Operation on the main remote control unit】
In the zone mode you want to operate, press **[SOURCE SELECT]**.

Adjusting the Volume

【Operation on the main unit】
① Press **<ZONE2/3/4 / REC SELECT>** and select the zone to be adjusted.
② Turn **<VOLUME>** to adjust.

【Operation on the main remote control unit】
In the zone mode whose volume you want to adjust, press **[VOLUME]**.

[Variable range] — — — **−70dB** ~ **−40dB** ~ **+18dB**

✐

• The volume can be adjusted when GUI menu "Manual Setup" – "Zone Setup" – "(select the zone)" – "Volume Level" is set to "Variable". The volume can be increased up to the value set at GUI menu "Manual Setup" – "Zone Setup" – "(select the zone)" – "Volume Limit" (☞page 34).
• The volume for ZONE2 and ZONE3 can be adjusted with the remote control unit.

Turning off the Sound Temporarily

In the zone mode for which you want to mute the sound, press **[MUTE]**.
The sound is reduced to the level set at GUI menu "Manual Setup" – "Zone Setup" – "(select the zone)" – "Mute Level" (☞page 34).
To cancel, either adjust the volume or press **[MUTE]** again.
The setting is canceled when the zone's power is turned off.

✐

• The source selected for ZONE2 is also output from the recording output connectors.
• For ZONE2, the "Zone Setup" can be made while watching the on-screen display. Also, when ZONE3 is operated, the on-screen display appears on the ZONE2 monitor, so operation can be performed watching this on-screen display.

```
ZONE2 MENU
                              ZONE2 MENU
 INPUT :DVD
 SIGNAL:ANALOG             ↑
 VOL.  :-40.0dB           ☞Channel      ◀STEREO▶
                           Vol.Lev.     ◀ VAR  ▶
 ☞Bass          ◀   0dB▶   Vol.Limit    ◀ OFF  ▶
  Treble        ◀   0dB▶   P.On Lev.      LAST▶
  HPF           ◀  OFF▶    Mute Lev.    ◀ FULL▶
  Lch Lev.      ◀   0dB▶
 ↓ Rch Lev.     ◀   0dB▶
```

NOTE

• When connected to the component video output connectors, the on-screen display is not displayed.
• When the input source to which the digital input connectors (OPTICAL/COAXIAL) are assigned is selected in ZONE2 or ZONE3, playback is only possible if the digital signal being input is in PCM (2-channel) format.
• Digital audio signals input from the DENON LINK or HDMI connectors cannot be played in multi-zone.
• In ZONE4, it is not possible to select "XM", "HD Radio", or sources with no digital input signals ("TUNER", "PHONO", "iPod", etc.). Network audio signals (Internet radio, music server, USB) can be played as long as they are not copyright-protected.
• When certain digital signals are being input, noise may be output from the ZONE2 and ZONE3 audio output connectors.
• When "DENON LINK" is assigned at the GUI menu "Assign" setting, the PCM signals, network audio signals (Internet radio, music server and USB), XM signals and HD Radio signals input from the digital input connectors cannot be output from the ZONE2 and ZONE3 audio output connectors.

Other Information

About Speaker Installation

Surround back speakers

Sound positioning directly to the rear can be achieved easily by adding a surround back speaker to a 5.1-channel system.

In addition, the acoustic image extending between the sides and the rear is narrowed, thus greatly improving the expression of the surround signals for sounds moving from the sides to the back and from the front to the point directly behind the listening position.

Change of positioning and acoustic image with 5.1-channel systems
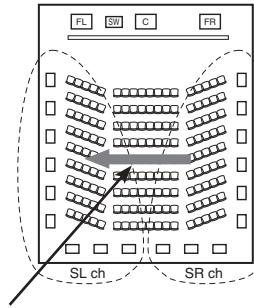
Movement of acoustic image from SR to SL

Change of positioning and acoustic image with 6.1-channel systems
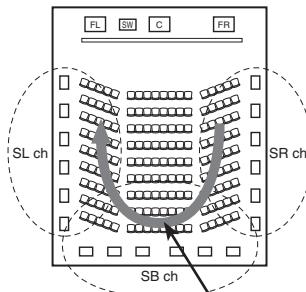
Movement of acoustic image from SR to SB to SL

In addition to sources recorded in 6.1-channels, the surround effect of conventional 2- to 5.1-channel sources can also be enhanced.

Number of surround back speakers

We recommend using 2 speakers.
When using dipolar speakers in particular, be sure to use 2 speakers.

Placement of the surround left and right channels when using surround back speakers

We recommend installing the speakers for the surround "L" and "R" channels a bit forward.

Examples of speaker layouts

Below we introduce examples of speaker layouts. Refer to these to arrange your speakers according to their type and how you want to use them.

〔1〕 Using surround back speaker(s)

① **When mainly playing movies**
Recommended when your surround speakers are single or 2-way speakers.
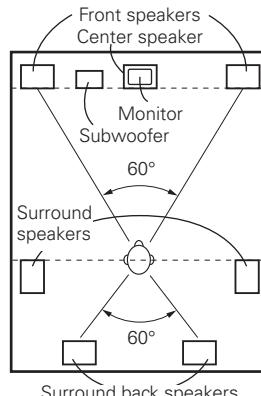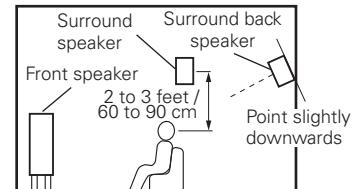
[As seen from above]　　[As seen from the side]

② **Setting for primarily watching movies using diffusion type speakers for the surround speakers**
For the greatest sense of surround sound envelopment, diffuse radiation speakers such as bipolar types, or dipolar types, provide a wider dispersion than is possible to obtain from a direct radiating speaker (monopolar). Place these speakers at either side of the prime listening position, mounted above ear level.

Path of the surround sound from the speakers to the listening position
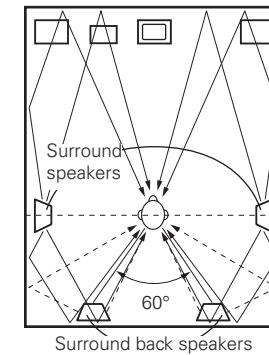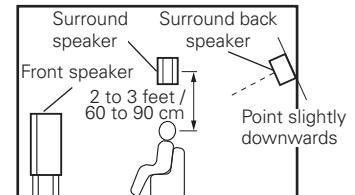
[As seen from above]　　[As seen from the side]

③ **When playing movies and music**

[As seen from above]　　[As seen from the side]

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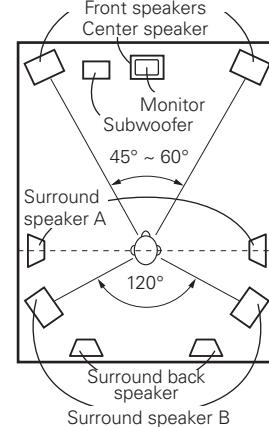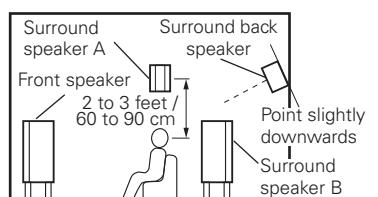
【2】 When not using surround back speakers
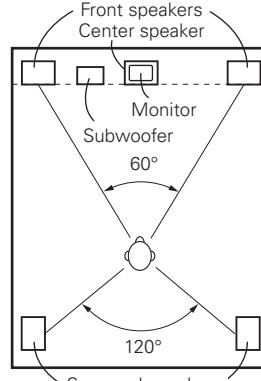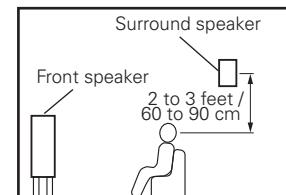
[As seen from above]   **[As seen from the side]**

Surround

The AVR-4308CI is equipped with a digital signal processing circuit that lets you play program sources in the surround mode to achieve the same sense of presence as in a movie theater.

Dolby Surround

Dolby Digital

Dolby Digital is a multichannel digital signal format developed by Dolby Laboratories.

A total of 5.1-channels are played: 3 front channels ("FL", "FR" and "C"), 2 surround channels ("SL" and "SR") and the "LFE" channel for low frequencies.

Because of this, there is no crosstalk between channels and a realistic sound field with a "three-dimensional" feeling (sense of distance, movement and positioning) is achieved.

A real, overpowering sense of presence is achieved when playing movie sources in AV rooms as well.

Dolby Digital Plus

Dolby Digital Plus is an improved Dolby Digital signal format that is compatible with up to 7.1-channels of discrete digital sound and also improves sound quality thanks to extra data bit rate performance. It is upwardly compatible with conventional Dolby Digital, so it offers greater flexibility in response to the source signal and the conditions of the playback equipment.

Dolby TrueHD

Dolby TrueHD is a high definition audio technology developed by Dolby Laboratories, using lossless coding technology to faithfully reproduce the sound of the studio master.

This format is compatible with a maximum sampling frequency of 96 kHz and up to 7.1-channels, so it is used for applications particularly prioritizing sound quality.

Dolby Pro Logic Ⅱ

Dolby Pro Logic Ⅱ is a matrix decoding technology developed by Dolby Laboratories.

Regular music such as that on CDs is encoded into 5-channels to achieve an excellent surround effect.

The surround channel signals are converted into stereo and full band signals (with a frequency response of 20 Hz to 20 kHz or greater) to create a "three-dimensional" sound image offering a rich sense of presence for all stereo sources.

Dolby Pro Logic Ⅱx

Dolby Pro Logic Ⅱx is a further improved version of the Dolby Pro Logic Ⅱ matrix decoding technology.

Audio signals recorded in 2-channels are decoded to achieve a natural sound with up to 7.1-channels.

There are 3 modes: "Music" suited for playing music, "Cinema" suited for playing movies, and "Game" which is optimized for playing games.

※ Sources recorded in Dolby Surround

Sources recorded in Dolby Surround are indicated with the following logo marks.

Dolby Surround support mark : ▯▮ **DOLBY SURROUND**

Manufactured under license from Dolby Laboratories.
"Dolby", "Pro Logic" and the double-D symbol are trademarks of Dolby Laboratories.

DTS Surround

DTS Digital Surround

DTS Digital Surround is the standard digital surround format of DTS, Inc., compatible with a sampling frequency of 44.1 or 48 kHz and up to 5.1-channels of digital discrete surround sound.

DTS-HD High Resolution Audio

DTS-HD High Resolution Audio is an improved version of the conventional DTS, DTS-ES and DTS 96/24 signals formats, compatible with sampling frequencies of 96 or 48 kHz and up to 7.1-channels of discrete digital sound. High data bit rate performance provides high quality sound. This format is fully compatible with conventional products, including conventional DTS digital surround 5.1-channel data.

DTS-HD Master Audio

DTS-HD Master Audio is DTS, Inc's lossless audio format compatible with up to 96 kHz/7.1-channels. The lossless audio coding technology faithfully reproduces the sound of the studio master. It is fully compatible with conventional products, including conventional DTS digital surround 5.1-channel data.

DTS-ES™ Discrete 6.1

DTS-ES™ Discrete 6.1 is a 6.1-channel discrete digital audio format adding a surround back (SB) channel to the DTS digital surround sound. Decoding of conventional 5.1-channel audio signals is also possible according to the decoder.

DTS-ES™ Matrix 6.1

DTS-ES™ Matrix 6.1 is a 6.1-channel discrete digital audio format inserting a surround back (SB) channel to the DTS digital surround sound through matrix encoding. Decoding of conventional 5.1-channel audio signals is also possible according to the decoder.

DTS NEO:6™ Surround

DTS NEO:6™ is a matrix decoding technology for achieving 6.1-channel surround playback with 2-channel sources. It includes "DTS NEO:6 CINEMA" suited for playing movies and "DTS NEO:6 MUSIC" suited for playing music.

DTS 96/24

DTS 96/24 is a digital audio format enabling high sound quality playback in 5.1-channels with a sampling frequency of 96 kHz and 24 bit quantization on DVD-Video.

> Manufactured under license under U.S. Patent #'s: 5,451,942; 5,956,674; 5,974,380; 5,978,762; 6,226,616; 6,487,535 & other U.S. and worldwide patents issued & pending. DTS is a registered trademark and the DTS logos, Symbol, DTS-HD and DTS-HD Master Audio are trademarks of DTS, Inc.© 1996-2007 DTS, Inc. All Rights Reserved.

Neural Surround

Neural Surround™, a breakthrough in audio technology, will bring the excitement of surround music to more of America's listening audience. It provides the rich envelopment and discrete image detail of surround sound in a format 100 % compatible with stereo. With superior spectral resolution and channel separation, Neural Surround™ draws the brain's attention to sonic details in musical instruments, vocals, and ambience that are typically masked by other playback systems. This allows the listener to fully experience the richness and subtleties in recorded performance as never before. As the chosen format for XM Satellite Radio's new XM HD surround programming, Neural Surround will help deliver more surround music to more listeners than any other broadcast format. XM Satellite Radio will be the first radio company to broadcast surround sound on the radio 24 hours a day and will offer three channels fully dedicated to Neural Surround™ music. This alone will amount to more than 25,000 hours of Neural Surround™ music each year.

> ⊗ neural SURROUND
>
> This product is manufactured under license from Neural Audio Corporation.
> D&M Holdings Inc. hereby grants the user a non-exclusive, nontransferable, limited license right exercisable to use the NA SURROUND Technology and other US and World Wide Patents Pending technology.
> "Neural" and "Neural Audio" and "Neural Surround" Are trademarks of Neural Audio Corporation. All Rights Reserved.

Audyssey MultEQ XT

Audyssey MultEQ XT is a technology designed to provide the optimum listening environment for multiple listeners within the listening area. Test data collected from multiple listening points is analyzed comprehensively and equalization that improves the sound quality for the entire listening area is performed.
Audyssey MultEQ XT not only corrects frequency response problems in large listening areas, it also fully automates the surround system setup.
For a detailed description, see page 25.

> AUDYSSEY
> MULTEQ XT
>
> Audyssey MultEQ XT is a trademark of Audyssey Laboratories. It is licensed under US and National Patent Applications 20030235318 and 10/700,220. Additional U.S. and Foreign Patents pending. MultEQ and the Audyssey MultEQ logo are trademarks of Audyssey Laboratories, Inc.. All rights reserved.

HDCD®
(High Definition Compatible Digital®)

HDCD® is an encoding/decoding technology that greatly reduces the distortion that occurs upon digital recording while maintaining compatibility with the conventional CD format, thus expanding the dynamic range and achieving a high resolution.
Conventional CDs and HDCD compatible CDs are identified automatically to select the optimum digital processing.

> HDCD ®, HDCD®, High Definition Compatible Digital® and Microsoft® are either registered trademarks or trademarks of Microsoft Corporation, Inc. in the United States and/or other countries. HDCD system manufactured under license from Microsoft Corporation, Inc. This product is covered by one or more of the following: In the USA: 5,479,168, 5,638,074, 5,640,161, 5,808,574, 5,838,274, 5,854,600, 5,864,311, 5,872,531, and in Australia: 669114. Other patents pending.

DENON LINK

DENON LINK is a unique digital, balanced transfer type interface developed by DENON. It offers high speed, high quality transfer of digital audio data with low signal loss. It can be used together with DENON DVD players equipped with a special DENON Link connector using a single cable to enable playback with high sound quality.
It allows digital transfer of the 192 kHz/24 bit 2-channel digital signals of DVD-Audio discs, PCM multi-channel signals, etc. Full-spec digital transfer of the audio contents of Super Audio CDs is possible by connecting a player equipped for DENON LINK 3rd Edition.

Advanced AL24 Processing Multi channel

Equipped with "Advanced AL24 Processing" time axis region information volume expansion
In addition to the existing "AL24 Processing Plus" bit expansion technology, DENON has also developed "Advanced AL24 Processing" that dramatically improves information volume in the time axis region using high-speed signal detection and processing technology. In addition to expanding original 16-bit digital data to 24 bits, "Advanced AL24 Processing" uses data interpolation along the time axis or up-converted sampling to achieve natural interpolation without losing the original data. A digital filter is used to further expand adaptability and perform optimum filtering calculations for ringing-free pulse response, pulsive music data and attack sounds.
This results in the reproduction of such spatial information as the delicate nuances in the music, the positions of the performers, and the breadth, height, and depth of the concert hall. "Advanced AL24 Processing" is conducted for all channels and modes other than DSD DIRECT.

Getting Started

Connections

Setup

Playback

Remote Control

Multi-Zone

Information

Troubleshooting

HDMI (High-Definition Multimedia Interface)

HDMI is a digital interface standard for next generation TVs based on DVI (Digital Visual Interface) standards and optimized for use in consumer equipment.

Non-compressed digital video and multi-channel audio signals are transmitted with a single connection.

HDMI is also compatible with HDCP (High-bandwidth Digital Contents Protection), a technology for protecting copyrights that encrypts digital video signals in the same was as with DVI.

Deep Color

Eliminates on-screen color banding, for smooth tonal transitions and subtle gradations between colors.

Enables increased contrast ratio.

Can represent many times more shades of gray between black and white.

At 30-bit pixel depth, a four times improvement would be the minimum, and the typical improvement would be eight times or more.

xvYCC

Next-generation "xvYCC" color space supports 1.8 times as many colors as existing HDTV signals.

Lets HDTVs display colors more accurately.

Enables displays with natural, vivid colors.

Lip Sync

Because consumer electronics devices are using increasingly complex digital signal processing to enhance the clarity and detail of the content, synchronization of video and audio in user devices has become a greater challenge and could potentially require complex end-user adjustments. HDMI 1.3 incorporates an automatic video/audio synching capability that allows devices to perform this synchronization automatically with total accuracy.

"HDMI", "HDMI logo" and "High-Definition Multimedia Interface" are trademarks or registered trademarks of HDMI Licensing LLC.

Surround Modes and Parameters

Surround Mode	Signals and adjustability in the different modes									
	Channel output					Parameter (default values are shown in parentheses)				
	Front L/R	Center	Surround L/R	Surround Back L/R	Subwoofer	D. COMP *1	LFE *2	AFDM *1	SB CH Out	Cinema EQ.
PURE DIRECT, DIRECT	○	×	×	×	◎	○ (OFF)	○(0 dB)	×	×	×
DSD DIRECT	○	×	×	×	×	×	×	×	×	×
DSD MULTI DIRECT	○	◎	◎	◎	◎	×	○(0 dB)	×	○	×
MULTI CH DIRECT	○	◎	◎	◎	◎	×	○(0 dB)	○ (ON)	○	×
STEREO	○	×	×	×	◎	○ (OFF)	○(0 dB)	×	×	×
EXT. IN	○	◎	◎	◎	◎	×	×	×	×	×
MULTI CH IN	○	◎	◎	◎	◎	×	○(0 dB)	○ (ON)	○	×
WIDE SCREEN	○	◎	◎	◎	◎	○ (OFF)	○(0 dB)	×	○	○ (OFF)
DOLBY PRO LOGIC IIx	○	◎	◎	◎	◎	○ (OFF)	×	×	○	○(NOTE1)
DOLBY PRO LOGIC II	○	◎	◎	×	◎	○ (OFF)	×	×	○	○(NOTE2)
DTS NEO:6	○	◎	◎	◎	◎	○ (OFF)	×	×	○	○(NOTE1)
DOLBY DIGITAL	○	◎	◎	◎	◎	○ (OFF)	○(0 dB)	○ (ON)	○	○ (OFF)
DTS SURROUND	○	◎	◎	◎	◎	○ (OFF)	○(0 dB)	○ (ON)	○	○ (OFF)
neural	○	◎	◎	◎	◎	×	×	×	○	×
7CH STEREO	○	◎	◎	◎	◎	○ (OFF)	○(0 dB)	×	○	×
SUPER STADIUM	○	◎	◎	◎	◎	○ (OFF)	○(0 dB)	×	○	×
ROCK ARENA	○	◎	◎	◎	◎	○ (OFF)	○(0 dB)	×	○	×
JAZZ CLUB	○	◎	◎	◎	◎	○ (OFF)	○(0 dB)	×	○	×
CLASSIC CONCERT	○	◎	◎	◎	◎	○ (OFF)	○(0 dB)	×	○	×
MONO MOVIE	○	◎	◎	◎	◎	○ (OFF)	○(0 dB)	×	○	×
VIDEO GAME	○	◎	◎	◎	◎	○ (OFF)	○(0 dB)	×	○	×
MATRIX	○	◎	◎	◎	◎	○ (OFF)	○(0 dB)	×	○	×
VIRTURL	○	×	×	×	◎	○ (OFF)	○(0 dB)	×	○	×

○ : Signal / Adjustable
× : No signal / Not adjustable
◎ : Turned on or off by speaker configuration setting

○ : Enable
× : Unable
NOTE1 : This parameter is availabe when the GUI menu "Parameter" – "Audio" – "Surround Parameters" – "Mode" is set to "Cinema" (☞ page 42).
NOTE2 : This parameter is availabe when the GUI menu "Parameter" – "Audio" – "Surround Parameters" – "Mode" is set to "Cinema" or "Pro Logic" (☞ page 42).

NOTE:
*1 : When playing Dolby Digital and DTS signals.
*2 : When playing Dolby Digital, DTS, DVD-Audio and Super Audio CD.

Surround Mode	Signals and adjustability in the different modes													
	Parameter (default values are shown in parentheses)													
	Mode	Room Size	Effect Level	Delay Time	Subwoofer	PRO LOGIC II/IIx MUSIC mode only			NEO:6 MUSIC mode only	EXT. IN only	Tone	Night Mode	Room EQ	RESTORER
						Panorama	Dimension	Center Width	Center Image	Subwoofer Att.				
PURE DIRECT, DIRECT	×	×	×	×	○	×	×	×	×	×	×	○ (OFF)	○ (NOTE5)	○ (OFF)
DSD DIRECT	×	×	×	×	○	×	×	×	×	×	×	×	○ (NOTE5)	×
DSD MULTI DIRECT	×	×	×	×	×	×	×	×	×	×	×	×	○ (NOTE5)	×
MULTI CH DIRECT	×	×	×	×	×	×	×	×	×	×	×	○ (OFF)	○ (OFF)	×
STEREO	×	×	×	×	×	×	×	×	×	×	○(0 dB)	○ (OFF)	○ (OFF)	○ (OFF)
EXT. IN	×	×	×	×	×	×	×	×	×	○	×	×	×	×
MULTI CH IN	×	×	×	×	×	×	×	×	×	×	○(0 dB)	○ (OFF)	○ (OFF)	×
WIDE SCREEN	×	×	○ (ON, 10)	×	×	×	×	×	×	×	○(0 dB)	○ (OFF)	○ (OFF)	○ (OFF)
DOLBY PRO LOGIC IIx	○ (Cinema)	×	×	×	×	○ (OFF)	○ (3)	○ (3)	×	×	○(0 dB)	○ (OFF)	○ (OFF)	○ (OFF)
DOLBY PRO LOGIC II	○ (Cinema)	×	×	×	×	○ (OFF)	○ (3)	○ (3)	×	×	○(0 dB)	○ (OFF)	○ (OFF)	○ (OFF)
DTS NEO:6	○ (Cinema)	×	×	×	×	×	×	×	○ (0.3)	×	○(0 dB)	○ (OFF)	○ (OFF)	○ (OFF)
DOLBY DIGITAL	×	×	×	×	×	×	×	×	×	×	○(0 dB)	○ (OFF)	○ (OFF)	×
DTS SURROUND	×	×	×	×	×	×	×	×	×	×	○(0 dB)	○ (OFF)	○ (OFF)	×
neural	×	×	×	×	×	×	×	×	×	×	○(0 dB)	○ (OFF)	○ (OFF)	○ (OFF)
7CH STEREO	×	×	×	×	×	×	×	×	×	×	○(0 dB)	○ (OFF)	○ (OFF)	○ (OFF)
SUPER STADIUM	×	○ (Medium)	○ (10)	×	×	×	×	×	×	×	○(NOTE3)	○ (OFF)	○ (OFF)	○ (OFF)
ROCK ARENA	×	○ (Medium)	○ (10)	×	×	×	×	×	×	×	○(NOTE4)	○ (OFF)	○ (OFF)	○ (OFF)
JAZZ CLUB	×	○ (Medium)	○ (10)	×	×	×	×	×	×	×	○(0 dB)	○ (OFF)	○ (OFF)	○ (OFF)
CLASSIC CONCERT	×	○ (Medium)	○ (10)	×	×	×	×	×	×	×	○(0 dB)	○ (OFF)	○ (OFF)	○ (OFF)
MONO MOVIE	×	○ (Medium)	○ (10)	×	×	×	×	×	×	×	○(0 dB)	○ (OFF)	○ (OFF)	○ (OFF)
VIDEO GAME	×	○ (Medium)	○ (10)	×	×	×	×	×	×	×	○(0 dB)	○ (OFF)	○ (OFF)	○ (OFF)
MATRIX	×	×	×	○ (30 msec)	×	×	×	×	×	×	○(0 dB)	○ (OFF)	○ (OFF)	○ (OFF)
VIRTURL	×	×	×	×	×	×	×	×	×	×	○(0 dB)	○ (OFF)	○ (OFF)	○ (OFF)

○ : Signal / Adjustable
× : No signal / Not adjustable
◎ : Turned on or off by speaker configuration setting

○ : Adjustable
× : Not adjustable
NOTE3 : BASS +6 dB, TREBLE 0 dB
NOTE4 : BASS +6 dB, TREBLE +4 dB
NOTE5 : Can be used according to the "Direct Mode" setting.

Differences in Surround Mode Names Depending on the Input Signals

Input signals grouped as: **DTS** (DTS ES DSCRT, DTS ES MTRX, DTS 5.1ch, DTS 96/24), **DOLBY DIGITAL** (DOLBY DIGITAL EX With Flag, DOLBY DIGITAL EX With no Flag, DOLBY DIGITAL 5.1/5/4ch, DOLBY DIGITAL 4/3ch, DOLBY DIGITAL 2ch), **DVD-AUDIO** (multi ch, 2ch), **Super Audio CD** (DSD multi ch, DSD 2ch).

Button / Surround mode	Note	ANALOG	LINEAR PCM / WAV	WMA (Windows Media Audio) / MP3 / MPEG-4 AAC / FLAC	DTS ES DSCRT (With Flag)	DTS ES MTRX (With Flag)	DTS (5.1ch)	DTS 96/24	DOLBY DIGITAL EX (With Flag)	DOLBY DIGITAL EX (With no Flag)	DOLBY DIGITAL (5.1/5/4ch)	DOLBY DIGITAL (4/3ch)	DOLBY DIGITAL (2ch)	DVD-Audio (multi ch)	DVD-Audio (2ch)	DSD (multi ch)	DSD (2ch)
STANDARD																	
DTS SURROUND																	
DTS ES DSCRT6.1	*1	×	×	×	● ◎	×	×	×	×	×	×	×	×	×	×	×	×
DTS ES MTRX6.1	*1	×	×	×	×	● ◎	×	×	×	×	×	×	×	×	×	×	×
DTS SURROUND		×	×	×	○	○	●	×	×	×	×	×	×	×	×	×	×
DTS 96/24		×	×	×	×	×	×	●	×	×	×	×	×	×	×	×	×
DTS + PLIIx CINEMA	*2	×	×	×	○	○	○	○	×	×	×	×	×	×	×	×	×
DTS + PLIIx MUSIC	*1	×	×	×	○	○	○	○	×	×	×	×	×	×	×	×	×
DTS + NEO:6	*1	×	×	×	×	○	○	○	×	×	×	×	×	×	×	×	×
DTS NEO:6 CINEMA		○	○	○	×	×	×	×	×	×	×	×	○	×	○	×	○
DTS NEO:6 MUSIC		○	○	○	×	×	×	×	×	×	×	×	○	×	○	×	○
DOLBY SURROUND																	
DOLBY DIGITAL EX	*1	×	×	×	×	×	×	×	○	○	○	○	×	×	×	×	×
DOLBY DIGITAL		×	×	×	×	×	×	×	○	●	●	●	×	×	×	×	×
DOLBY DIGITAL + PLIIx CINEMA	*2	×	×	×	×	×	×	×	● ◎	○	○	○	×	×	×	×	×
DOLBY DIGITAL + PLIIx MUSIC	*1	×	×	×	×	×	×	×	○	○	○	○	×	×	×	×	×
DOLBY PRO LOGIC IIx CINEMA		○	○	○	×	×	×	×	×	×	×	×	●	×	○	×	○
DOLBY PRO LOGIC IIx MUSIC		○	○	○	×	×	×	×	×	×	×	×	○	×	○	×	○
DOLBY PRO LOGIC IIx GAME		○	○	○	×	×	×	×	×	×	×	×	○	×	○	×	○
DOLBY PRO LOGIC II CINEMA		○	○	○	×	×	×	×	×	×	×	×	○	×	○	×	○
DOLBY PRO LOGIC II MUSIC		○	○	○	×	×	×	×	×	×	×	×	○	×	○	×	○
DOLBY PRO LOGIC II GAME		○	○	○	×	×	×	×	×	×	×	×	○	×	○	×	○
DOLBY PRO LOGIC		○	○	○	×	×	×	×	×	×	×	×	○	×	○	×	○
neural		○	○	○	×	×	×	×	×	×	×	×	×	×	○	×	×
MULTI CH IN																	
MULTI CH IN		×	×	×	×	×	×	×	×	×	×	×	×	●	×	●	×
MULTI IN + PLIIx CINEMA	*2	×	×	×	×	×	×	×	×	×	×	×	×	○	×	○	×
MULTI IN + PLIIx MUSIC	*1	×	×	×	×	×	×	×	×	×	×	×	×	○	×	○	×
MULTI CH IN 7.1		×	×	×	×	×	×	×	×	×	×	×	×	○	×	×	×

NOTE:

*1: This mode is not available when the surround back speaker setup is set to "None".

*2: This mode is not available when the surround back speaker setup is set to "1spkr" or "None".

● : Mode selectable in initial status

◎ : Mode fixed when "AFDM" is "ON"

○ : Selectable mode

× : Non-selectable mode

Button		Input signals															
					DTS				DOLBY DIGITAL					DVD-AUDIO		Super Audio CD	
Surround mode	Note	ANALOG	LINEAR PCM / WAV	WMA (Windows Media Audio) / MP3 / MPEG-4 AAC / FLAC	DTS ES DSCRT (With Flag)	DTS ES MTRX (With Flag)	DTS (5.1ch)	DTS 96/24	DOLBY DIGITAL EX (With Flag)	DOLBY DIGITAL EX (With no Flag)	DOLBY DIGITAL (5.1/5/4ch)	DOLBY DIGITAL (4/3ch)	DOLBY DIGITAL (2ch)	DVD-Audio (multi ch)	DVD-Audio (2ch)	DSD (multi ch)	DSD (2ch)
DIRECT																	
DIRECT		○	○	○	○	○	○	○	○	○	○	○	○	×	○	×	×
DSD DIRECT		×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	○
DSD MULTI DIRECT		×	×	×	×	×	×	×	×	×	×	×	×	×	×	○	×
MULTI CH DIRECT		×	×	×	×	×	×	×	×	×	×	×	×	○	×	○	×
M DIRECT + PLIIx CINEMA	*2	×	×	×	×	×	×	×	×	×	×	×	×	○	×	○	×
M DIRECT + PLIIx MUSIC	*1	×	×	×	×	×	×	×	×	×	×	×	×	○	×	○	×
M DIRECT 7.1		×	×	×	×	×	×	×	×	×	×	×	×	○	×	×	×
PURE DIRECT																	
PURE DIRECT		○	○	○	○	○	○	○	○	○	○	○	○	×	○	×	×
DSD PURE DIRECT		×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	○
DSD MULTI PURE		×	×	×	×	×	×	×	×	×	×	×	×	×	×	○	×
MULTI CH PURE DIRECT		×	×	×	×	×	×	×	×	×	×	×	×	○	×	○	×
M PURE D + PLIIx CINEMA	*2	×	×	×	×	×	×	×	×	×	×	×	×	○	×	○	×
M PURE D + PLIIx MUSIC	*1	×	×	×	×	×	×	×	×	×	×	×	×	○	×	○	×
M CH PURE DIRECT 7.1		×	×	×	×	×	×	×	×	×	×	×	×	○	×	×	×
DSP SIMULATION																	
7CH STEREO	*3	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
WIDE SCREEN		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
SUPER STADIUM		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
ROCK ARENA		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
JAZZ CLUB		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
CLASSIC CONCERT		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
MONO MOVIE		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
VIDEO GAME		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
MATRIX		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
VIRTUAL		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
STEREO																	
STEREO		●	●	●	○	○	○	○	○	○	○	○	○	○	●	○	●

NOTE :

*1: This mode is not available when the surround back speaker setup is set to "None".

*2: This mode is not available when the surround back speaker setup is set to "1spkr" or "None".

*3: If the surround back speaker setup is set to "None", then "5CH STEREO" is displayed.

● : Mode selectable in initial status

○ : Selectable mode

× : Non-selectable mode

About Networks

Windows Media Player Ver.11

This is a media player distributed free of charge by Microsoft Corporation.

It can be used to play playlists created with Windows Media Player Ver. 11 as well as files in such formats as WMA, DRM WMA, MP3 and WAV.

vTuner

This is a free online contents server for Internet radio. Note that usage fees are included in upgrade costs.

For inquiries about this service, visit the vTuner site below.

vTuner website: http://www.radiodenon.com

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DLNA

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- Some contents may not be compatible with other DLNA CERTIFIED™ products.

Windows Media DRM

A copyright-protected technology developed by Microsoft.

- Windows Vista and the Windows logo are trademarks of the Microsoft group of companies.
- The PlaysForSure logo, Windows Media and the Windows logo are trademarks or registered trademarks of Microsoft Corporation in the United States and/or other countries.
- Content providers are using the digital rights management technology for Windows Media contained in this device (WM-DRM) to protect the integrity of their content (Secure Content) so that their intellectual property, including copyright, in such content is not misappropriated. This device uses WM-DRM software to play Secure Content (WM-DRM Software). If the security of the WM-DRM Software in this device has been compromised, owners of Secure Content (Secure Content Owners) may request that Microsoft revoke the WM-DRM Software's right to acquire new licenses to copy, display and/or play Secure Content. Revocation does not alter the WM-DRM Software's ability to play unprotected content. A list of revoked WM-DRM Software is sent to your device whenever you download a license for Secure Content from the Internet or from a PC. Microsoft may, in conjunction with such license, also download revocation list onto your device on behalf of Secure Content Owners.

About Wireless LAN

Wi-Fi®

Wi-Fi Certification assures tested and proven interoperability by the Wi-Fi Alliance, a group certifying interoperability among wireless LAN devices.

IEEE 802.11b

This is one wireless LAN standard set by the 802 working group that establishes LAN technology standards at the IEEE (Institute of Electrical and Electronics Engineers) of the United States. It uses the 2.4 GHz band usable freely without a radio frequency license (ISM band), enabling communications at a maximum speed of 11 Mbps.

🖉

The value indicated above is the maximum theoretical value for the wireless LAN standard, and does not indicate the actual data transfer rate.

IEEE 802.11g

This is another wireless LAN standard set by the 802 working group that establishes LAN technology standards at the IEEE (Institute of Electrical and Electronics Engineers) of the United States, and is compatible with IEEE 802.11b. It also uses the 2.4 GHz band, but enables communications at a maximum speed of 54 Mbps.

🖉

The value indicated above is the maximum theoretical value for the wireless LAN standard, and does not indicate the actual data transfer rate.

Infrastructure Communications

"Infrastructure Communications" refers to networks using wireless LAN access points.

This function can be used to connect to the Internet or a wired LAN via a wireless LAN access point. Wireless LAN access points include wireless broadband routers.

Ad-hoc Communications

Signal transfer through wireless interconnection of computers is referred to as "ad hoc communications". With such ad hoc communications there is no connection to the Internet. Ad hoc communications are suited for establishing simple temporary networks.

Network Names (SSID: Security Set Identifier)

When forming wireless LAN networks, groups are formed to prevent interference, data theft, etc. This grouping is done by "SSID" or "Security Set Identifiers". For further security, a WEP key is set and signal transfer is not possible unless the SSID and WEP key match.

WEP Key (Network Key)

This is key information used for encrypting data when conducting data transfer. On the AVR-4308CI, the same WEP key is used for data encryption and decryption, so the same WEP key must be set on both devices in order for communications to be established between them.

WPA (Wi-Fi Protected Access)

This is a security standard established by the Wi-Fi Alliance. In addition to the conventional SSID (network name) and WEP key (network key), it also uses a user identification function and encrypting protocol for stronger security.

WPA2 (Wi-Fi Protected Access 2)

This is a new version of the WPA established by the Wi-Fi Alliance, compatible with more secure AES encryption.

WPA-PSK/WPA2-PSK (Pre-shared Key)

This is a simple authentication system for mutual authentication when a preset character string matches on the wireless LAN access point and client.

Passphrase

This refers to the code key used for WPA-PSK/WPA2-PSK authentication, a WPA authentication method.

TKIP (Temporal Key Integrity Protocol)

This is a network key used for WPA. The encryption algorithm is RC4, the same as for WEP, but the security level is increased by changing the network key used for encryption for each packet.

AES (Advanced Encryption Standard)

This is a next generation standard encryption method replacing the current DES and 3DES, and because of its high security it is expected to be applied widely to wireless LANs in the future. It uses the "Rijndael" algorithm developed by two Belgian cryptographers to divide the data into blocks of fixed lengths and encrypt each block. It supports data lengths of 128, 192 and 256 bits and key lengths of 128, 192 and 256 bits as well, offering extremely high encryption security.

Getting Started

Connections

Setup

Playback

Remote Control

Multi-Zone

Information

Troubleshooting

Relationship Between Video Signals and Monitor Output

❏ MAIN ZONE

Video Convert		Input signal				Monitor output				Monitor output (when GUI menu displayed)			
		HDMI	COMPONENT	S-VIDEO	VIDEO	HDMI	COMPONENT	S-VIDEO	VIDEO	HDMI	COMPONENT	S-VIDEO	VIDEO
		×	×	×	×	※				※ *3	*3	*3	*3
		×	×	×	○	※ VIDEO*1	VIDEO*1	VIDEO*1 *4	VIDEO*1 *4	※ VIDEO*2	VIDEO*2	VIDEO*2	VIDEO*2
		×	×	○	×	※ S-VIDEO*1	S-VIDEO*1	S-VIDEO*1	S-VIDEO*1	※ S-VIDEO*2	S-VIDEO*2	S-VIDEO*2	S-VIDEO*2
		×	×	○	○	※ S-VIDEO*1	S-VIDEO*1	S-VIDEO*1	S-VIDEO*1	※ S-VIDEO*2	S-VIDEO*2	S-VIDEO*2	S-VIDEO*2
		×	○ (1080p)	×	×	COMPONENT	×			*3		*3	*3
		×	○ (480p ~ 720p)	×	×	※ COMPONENT*1	COMPONENT*1	×	×	※ COMPONENT*2	COMPONENT*2	×	×
		×	○ (480i/576i)	×	×	※ COMPONENT*1	COMPONENT*1	COMPONENT*1	COMPONENT*1	※ COMPONENT*2	COMPONENT*2	COMPONENT*2	COMPONENT*2
		×	○ (1080p)	×	○	※ VIDEO	COMPONENT	VIDEO *4	VIDEO *4	※ VIDEO*2	VIDEO*2	VIDEO*2	VIDEO*2
		×	○ (480p ~ 720p)	×	○	※ COMPONENT*1	COMPONENT*1	×	VIDEO	※ COMPONENT*2	COMPONENT*2	×	VIDEO
		×	○ (480i/576i)	×	○	※ COMPONENT*1	COMPONENT*1	COMPONENT*1	COMPONENT*1	※ COMPONENT*2	COMPONENT*2	COMPONENT*2	COMPONENT*2
		×	○ (1080p)	○	×	※ S-VIDEO	COMPONENT	S-VIDEO	S-VIDEO	※ S-VIDEO*2	S-VIDEO*2	S-VIDEO*2	S-VIDEO*2
		×	○ (480p ~ 720p)	○	×	※ COMPONENT*1	COMPONENT*1	S-VIDEO	S-VIDEO	※ COMPONENT*2	COMPONENT*2	S-VIDEO	S-VIDEO
		×	○ (480i/576i)	○	×	※ COMPONENT*1	COMPONENT*1	COMPONENT*1	COMPONENT*1	※ COMPONENT*2	COMPONENT*2	COMPONENT*2	COMPONENT*2
		×	○ (1080p)	○	○	※ S-VIDEO	COMPONENT	S-VIDEO	S-VIDEO	※ S-VIDEO*2	S-VIDEO*2	S-VIDEO*2	S-VIDEO*2
		×	○ (480p ~ 720p)	○	○	※ COMPONENT*1	COMPONENT*1	S-VIDEO	S-VIDEO	※ COMPONENT*2	COMPONENT*2	S-VIDEO	S-VIDEO
		×	○ (480i/576i)	○	○	※ COMPONENT*1	COMPONENT*1	COMPONENT*1	COMPONENT*1	※ COMPONENT*2	COMPONENT*2	COMPONENT*2	COMPONENT*2
ON	With HDMI monitor	○	×	×	×	HDMI	×	×	×	HDMI*2	×	×	×
		○	×	×	○	HDMI	VIDEO	VIDEO *4	VIDEO *4	HDMI*2	VIDEO	VIDEO	VIDEO
		○	×	○	×	HDMI	S-VIDEO	S-VIDEO	S-VIDEO	HDMI*2	S-VIDEO	S-VIDEO	S-VIDEO
		○	×	○	○	HDMI	S-VIDEO	S-VIDEO	S-VIDEO	HDMI*2	S-VIDEO	S-VIDEO	S-VIDEO
		○	○ (1080p)	×	×	HDMI	COMPONENT	×	×	HDMI*2	COMPONENT	×	×
		○	○ (480p ~ 720p)	×	×	HDMI	COMPONENT	×	×	HDMI*2	COMPONENT	×	×
		○	○ (480i/576i)	×	×	HDMI	COMPONENT	COMPONENT	COMPONENT	HDMI*2	COMPONENT	COMPONENT	COMPONENT
		○	○ (1080p)	×	○	HDMI	COMPONENT	VIDEO *4	VIDEO *4	HDMI*2	COMPONENT	VIDEO	VIDEO
		○	○ (480p ~ 720p)	×	○	HDMI	COMPONENT	×	VIDEO	HDMI*2	COMPONENT	×	VIDEO
		○	○ (480i/576i)	×	○	HDMI	COMPONENT	COMPONENT	COMPONENT	HDMI*2	COMPONENT	COMPONENT	COMPONENT
		○	○ (1080p)	○	×	HDMI	COMPONENT	S-VIDEO	S-VIDEO	HDMI*2	COMPONENT	S-VIDEO	S-VIDEO
		○	○ (480p ~ 720p)	○	×	HDMI	COMPONENT	S-VIDEO	S-VIDEO	HDMI*2	COMPONENT	S-VIDEO	S-VIDEO
		○	○ (480i/576i)	○	×	HDMI	COMPONENT	COMPONENT	COMPONENT	HDMI*2	COMPONENT	COMPONENT	COMPONENT
		○	○ (1080p)	○	○	HDMI	COMPONENT	S-VIDEO	S-VIDEO	HDMI*2	COMPONENT	S-VIDEO	S-VIDEO
		○	○ (480p ~ 720p)	○	○	HDMI	COMPONENT	S-VIDEO	S-VIDEO	HDMI*2	COMPONENT	S-VIDEO	S-VIDEO
		○	○ (480i/576i)	○	○	HDMI	COMPONENT	COMPONENT	COMPONENT	HDMI*2	COMPONENT	COMPONENT	COMPONENT
	Without HDMI monitor or with HDMI monitor off	○	×	×	×	×				×	*3	*3	*3
		○	×	×	○	×	VIDEO*1	VIDEO*1 *4	VIDEO*1 *4	×	VIDEO*2	VIDEO*2	VIDEO*2
		○	×	○	×	×	S-VIDEO*1	S-VIDEO*1	S-VIDEO*1	×	S-VIDEO*2	S-VIDEO*2	S-VIDEO*2
		○	×	○	○	×	S-VIDEO*1	S-VIDEO*1	S-VIDEO*1	×	S-VIDEO*2	S-VIDEO*2	S-VIDEO*2
		○	○ (1080p)	×	×	×	COMPONENT	×	×	×	*3	*3	*3
		○	○ (480p ~ 720p)	×	×	×	COMPONENT*1	×	×	×	COMPONENT*2	×	×
		○	○ (480i/576i)	×	×	×	COMPONENT*1	COMPONENT*1	COMPONENT*1	×	COMPONENT*2	COMPONENT*2	COMPONENT*2
		○	○ (1080p)	×	○	×	COMPONENT	VIDEO*1 *4	VIDEO *4	×	VIDEO*2	VIDEO*2	VIDEO*2
		○	○ (480p ~ 720p)	×	○	×	COMPONENT*1	×	VIDEO	×	COMPONENT*2	×	VIDEO
		○	○ (480i/576i)	×	○	×	COMPONENT*1	COMPONENT*1	COMPONENT*1	×	COMPONENT*2	COMPONENT*2	COMPONENT*2
		○	○ (1080p)	○	×	×	COMPONENT	S-VIDEO*1	S-VIDEO	×	S-VIDEO*2	S-VIDEO*2	S-VIDEO*2
		○	○ (480p ~ 720p)	○	×	×	COMPONENT*1	S-VIDEO	S-VIDEO	×	COMPONENT*2	S-VIDEO	S-VIDEO
		○	○ (480i/576i)	○	×	×	COMPONENT*1	COMPONENT*1	COMPONENT*1	×	COMPONENT*2	COMPONENT*2	COMPONENT*2
		○	○ (1080p)	○	○	×	COMPONENT	S-VIDEO*1	S-VIDEO	×	S-VIDEO*2	S-VIDEO*2	S-VIDEO*2
		○	○ (480p ~ 720p)	○	○	×	COMPONENT*1	S-VIDEO	S-VIDEO	×	COMPONENT*2	S-VIDEO	S-VIDEO
		○	○ (480i/576i)	○	○	×	COMPONENT*1	COMPONENT*1	COMPONENT*1	×	COMPONENT*2	COMPONENT*2	COMPONENT*2

○ : Signal present
× : No signal
480p ~ 720p : 480p / 576p / 1080i / 720p

× : No output
*1 : The "Picture Adjust" setting can be made.
*2 : Superimposed over video signal
*3 : Only displayed when the **MENU** button is pressed
*4 : If the input signal is in SECAM format, it is converted to PAL for output

※ : Output according to "Resolution" setting (i/p Scaler : When "AtoH" is set) (☞ page 30).
■ : Wallpaper or set background color displayed
■ : Output according to "Resolution" setting (i/p Scaler : When "HtoH" is set) (☞ page 30).
□ : GUI menu not displayed

✎

• The MAIN ZONE video conversion function is compatible with the following formats: NTSC, PAL, SECAM, NTSC4,43, PAL -N, PAL -M and PAL -60.
• When SECAM signals of video input are up-converted, the signals are output in PAL format from the S-Video connector.
• If the input signal is a component 1080p signal, up-converting to HDMI is not possible.
• The GUI menu display cannot be superimposed when xvYCC signals and component 1080p signal, computer's resolution (e.g. VGA) are input.

Video Convert	SIGNAL IN				MONITOR OUT (Normally)				MONITOR OUT (when GUI menu displayed)			
	HDMI	COMPONENT	S-VIDEO	VIDEO	HDMI	COMPONENT	S-VIDEO	VIDEO	HDMI	COMPONENT	S-VIDEO	VIDEO
OFF	×	×	×	×	×	×	×	×	○	○	○	○
	×	×	×	○	×	×	×	○ (VIDEO)	○	○	○	○
	×	×	○	×	×	×	○ (S-VIDEO)	×	○	○	○	○
	×	×	○	○	×	×	○ (S-VIDEO)	○ (VIDEO)	○	○	○	○
	×	○	×	×	×	○ (COMPONENT)	×	×	○	○	○	○
	×	○	×	○	×	○ (COMPONENT)	×	○ (VIDEO)	○	○	○	○
	×	○	○	×	×	○ (COMPONENT)	○ (S-VIDEO)	×	○	○	○	○
	×	○	○	○	×	○ (COMPONENT)	○ (S-VIDEO)	○ (VIDEO)	○	○	○	○
	○	×	×	×	○ (HDMI)	×	×	×	○	○	○	○
	○	×	×	○	○ (HDMI)	×	×	○ (VIDEO)	○	○	○	○
	○	×	○	×	○ (HDMI)	×	○ (S-VIDEO)	×	○	○	○	○
	○	×	○	○	○ (HDMI)	×	○ (S-VIDEO)	○ (VIDEO)	○	○	○	○
	○	○	×	×	○ (HDMI)	○ (COMPONENT)	×	×	○	○	○	○
	○	○	×	○	○ (HDMI)	○ (COMPONENT)	×	○ (VIDEO)	○	○	○	○
	○	○	○	×	○ (HDMI)	○ (COMPONENT)	○ (S-VIDEO)	×	○	○	○	○
	○	○	○	○	○ (HDMI)	○ (COMPONENT)	○ (S-VIDEO)	○ (VIDEO)	○	○	○	○

○ : Signal present
× : No signal

○ : Output present
× : No output

To display the GUI menu on an HDMI monitor, output with a resolution of 480p/576p.

❏ ZONE2

Input			MONITOR OUT	
COMPONENT	S-VIDEO	VIDEO	COMPONENT	VIDEO
×	×	×	×	×
×	×	○	×	○ (VIDEO)
×	○	×	×	○ (S-VIDEO)
×	○	○	×	○ (S-VIDEO)
○	×	×	○ (COMPONENT IN)	×
○	×	○	○ (COMPONENT IN)	○ (VIDEO)
○	○	×	○ (COMPONENT IN)	○ (S-VIDEO)
○	○	○	○ (COMPONENT IN)	○ (S-VIDEO)

○ : Signal present
× : No signal

○ : Output present
× : No output
░ : On-screen display not displayed

84

Relationship Between Amp Assign Setting and Speaker Output

STEREO or DIRECT (2ch) Mode

Setting	Status	Speaker terminal			
	Surround mode	SURROUND A	SURROUND BACK	SURROUND B/ ASSIGN	ASSIGN-2
2ch Bi-Wiring	STEREO/DIRECT	–	–	FL/FR	FL/FR
	Other	SLA/SRA	SBL/SBR	–	–
2ch Bi-Amp	STEREO/DIRECT	–	–	FL/FR	FL/FR
	Other	SLA/SRA	SBL/SBR	–	–

Multi-Zone Power On/Off

Setting	Status		Speaker terminal			
	ZONE2	ZONE3	SURROUND A	SURROUND BACK	SURROUND B/ ASSIGN	ASSIGN-2
ZONE2	ON	ON	SLA/SRA	–	SLB/SRB	Z2 L/R
	ON	OFF	SLA/SRA	–	SLB/SRB	Z2 L/R
	OFF	ON	SLA/SRA	SBL/SBR	SLB/SRB	–
	OFF	OFF	SLA/SRA	SBL/SBR	SLB/SRB	–
ZONE3	ON	ON	SLA/SRA	–	SLB/SRB	Z3 L/R
	ON	OFF	SLA/SRA	SBL/SBR	SLB/SRB	–
	OFF	ON	SLA/SRA	–	SLB/SRB	Z3 L/R
	OFF	OFF	SLA/SRA	SBL/SBR	SLB/SRB	–
ZONE (MONO)	ON	ON	SLA/SRA	–	SLB/SRB	Z2/Z3
	ON	OFF	SLA/SRA	–	SLB/SRB	Z2/Z3
	OFF	ON	SLA/SRA	–	SLB/SRB	Z2/Z3
	OFF	OFF	SLA/SRA	SBL/SBR	SLB/SRB	–
Bi-Wiring & ZONE2	ON	ON	SLA/SRA	–	FL/FR	Z2 L/R
	ON	OFF	SLA/SRA	–	FL/FR	Z2 L/R
	OFF	ON	SLA/SRA	SBL/SBR	FL/FR	–
	OFF	OFF	SLA/SRA	SBL/SBR	FL/FR	–
Bi-Wiring & ZONE3	ON	ON	SLA/SRA	–	FL/FR	Z3 L/R
	ON	OFF	SLA/SRA	SBL/SBR	FL/FR	–
	OFF	ON	SLA/SRA	–	FL/FR	Z3 L/R
	OFF	OFF	SLA/SRA	SBL/SBR	FL/FR	–
Bi-Wiring & ZONE(MONO)	ON	ON	SLA/SRA	–	FL/FR	Z2/Z3
	ON	OFF	SLA/SRA	–	FL/FR	Z2/Z3
	OFF	ON	SLA/SRA	–	FL/FR	Z2/Z3
	OFF	OFF	SLA/SRA	SBL/SBR	FL/FR	–
ZONE2/ ZONE3	ON	ON	–	–	Z3 L/R	Z2 L/R
	ON	OFF	SLA/SRA	–	SLB/SRB	Z2 L/R
	OFF	ON	–	–	Z3 L/R	Z2 L/R
	OFF	OFF	SLA/SRA	SBL/SBR	SLB/SRB	–
ZONE2/3 (MONO)	ON	ON	–	–	Z3(MONO)	Z2(MONO)
	ON	OFF	SLA/SRA	–	SLB/SRB	Z2(MONO)
	OFF	ON	–	–	Z3(MONO)	–
	OFF	OFF	SLA/SRA	SBL/SBR	SLB/SRB	–

Troubleshooting

If a problem should arise, first check the following:
1. Are the connections correct?
2. Is the set being operated as described in the owner's manual?
3. Are the other components operating properly?
If this unit does not operate properly, check the items listed in the table below. Should the problem persist, there may be a malfunction.
In this case, disconnect the power immediately and contact your store of purchase.

【General】

Symptom	Cause	Countermeasure	Page
Power does not turn on, or turns off directly after it was turned on.	• Connection of the power cord is faulty.	• Check that the power plugs are securely inserted into the AVR-4308CI's AC inlets and the wall power outlet.	22
No sound is produced from speakers.	• Connection with the input devices or connection of the speaker cables is faulty.	• Check the connections.	9
	• Device you want to play and set input source do not match.	• Select an appropriate input source.	37, 38
	• Master volume is turned too low.	• Adjust the master volume to an appropriate level.	47
	• Mute mode is set.	• Cancel the mute mode.	47
	• Headphones are connected.	• Disconnect the headphones.	47
	• No digital signals are being input.	• Select an input source for which the digital input setting has been made.	40
	• The connectors to which the digital inputs are assigned and the settable input modes do not match.	• Set the input mode.	40
Display is off.	• The "Dimmer" setting is set to "OFF".	• Set to something other than "OFF".	36
	• The PURE DIRECT mode is set.	• Set a surround mode other than the PURE DIRECT mode.	41, 42
"DOLBY DIGITAL" indicator does not appear on display.	• DVD player's digital audio output setting is not proper.	• Check the DVD player's audio output setting. For details, read the DVD player's operating instructions.	–

Symptom	Cause	Countermeasure	Page
Power turns off suddenly and power indicator flashes red.	• Protection circuit activated due to rise of internal temperature.	• Turn off the power, wait for the set to fully cool down, then turn the power back on.	10
		• Place the set in a well-ventilated place.	10
	• Core wires of two speakers are touching each other or a core wire is sticking out of the terminal and touching the set's rear panel, activating the protection circuit.	• First unplug the power cord, then twist the core wires tightly or terminate the speaker cables, then reconnect.	10
	• Speakers with an impedance other than specified are being used.	• Use speakers with the specified impedance.	10
	• Set is damaged.	• Turn off the power and contact a DENON service center.	–

【Remote Control Unit】

Symptom	Cause	Countermeasure	Page
Set does not work properly when remote control unit operated.	• Batteries are worn.	• Replace with new batteries.	3
	• You are operating outside of the specified range.	• Operate within the specified range.	3
	• Obstacle between main unit and remote control unit.	• Remove the obstacle.	3
	• The batteries are not inserted in the proper direction, as indicated by the polarity marks in the battery compartment.	• Insert the batteries in the proper direction, following the polarity marks in the battery compartment.	3
	• The set's remote control sensor is exposed to strong light (direct sunlight, inverter type fluorescent bulb light, etc.).	• Move the set to a place in which the remote control sensor will not be exposed to strong light.	3
	• Remote lock mode is set.	• Release the remote lock mode.	60

【Audio】

Symptom	Cause	Countermeasure	Page
No sound is produced from center speaker.	• Monaural source (monitor, AM station, etc.) being played in "STANDARD" mode.	• The mode is set to something other than "STANDARD".	42
No sound is produced from surround speakers.	• The surround mode is set to "STEREO", "DIRECT" or "PURE DIRECT".	• Set to a surround playback mode.	41, 42
	• The surround speaker's power amplifier is assigned to a different channel.	• Check the setting and change it as necessary.	35
No sound is produced from surround back speaker.	• Surround back speaker setting is set to "None".	• Set to something other than "None".	28
	• Surround mode not set to a mode for 6.1- or 7.1-channel playback.	• Select a surround playback mode.	41, 42
	• The surround back speaker's power amplifier is assigned to a different channel.	• Check the setting and change it as necessary.	35
No sound is produced from subwoofer.	• Subwoofer's power not turned on.	• Turn on the subwoofer's power.	–
	• The "Subwoofer" setting at "Speaker configuration" is set to "No".	• Set to "Yes".	28
	• The subwoofer is not properly connected.	• Check the connections.	9
	• The subwoofer's volume is turned off.	• Adjust the subwoofer's volume to an appropriate level.	59
No test tones are produced when main remote control unit's **TEST TONE** button is pressed.	• Surround mode not set to "STANDARD".	• Set to the "STANDARD" mode.	41
DTS sound is not output.	• DVD player's audio output setting is not set to bitstream.	• Set the DVD player. For details, refer to the DVD player's operating instructions.	–
	• DVD player is not compatible with DTS sound playback.	• Use a DTS-compatible player.	–
	• The AVR-4308CI's "Decode Mode" setting is set to "PCM".	• Set to the "Auto" or "DTS" mode.	39
HDMI audio signals are not output from speakers.	• The "Manual Setup" – "HDMI Setup" – "Audio" setting is set to "TV".	• Set to "Amp".	30

Symptom	Cause	Countermeasure	Page
No sound is output from the monitor connected with HDMI connections.	• The "Manual Setup" – "HDMI Setup" – "Audio" setting is set to "Amp".	• Set to "TV".	30

【Video】

Symptom	Cause	Countermeasure	Page
The on-screen display does not appear.	• The format of the GUI and TV (NTSC or PAL) do not match.	• Match the format of the GUI and TV.	35
No picture appears.	• The connections between the AVR-4308CI and monitor are faulty.	• Check the connections.	11 ~ 22
	• The monitor's input setting is wrong.	• Set properly.	–
	• PURE DIRECT mode is set.	• Cancel the PURE DIRECT mode.	41, 42
	• The player is connected using the component input connectors, the monitor is connected using the video (yellow) or S-Video output connectors.	• High definition (1080i/720p) and progressive (480p/576p) video signals are not down-converted. Set the player to interlace (480i/576i) signals.	–
No picture appears with HDMI connections.	• The connections to the HDMI connectors are faulty.	• Check the connections.	11
	• HDMI input setting is improper.	• Check the HDMI input setting.	40
	• The monitor is not compatible with copyright protection (HDCP).	• Connect a monitor that is compatible with copyright protection (HDCP).	11
	• The HDMI format of the player and monitor do not match.	• Match the HDMI format of the player and monitor.	11
Picture cannot be recorded.	• Input source does not match recorder's video connection connector (video or S-Video).	• The video conversion function does not work for the REC OUT connectors. Match the input source and recorder connections.	15
DVDs cannot be copied on a VCR.	–	• This is not a malfunction. Most movie software includes copy prevention signals and cannot be copied.	–

【iPod】

Symptom	Cause	Countermeasure	Page
iPod cannot be played.	• The input source assigned to "iPod dock" is not selected.	• Switch to the input source assigned at "iPod dock".	40
	• Cable is not properly connected.	• Reconnect.	13
	• Control Dock for iPod's AC adapter is not connected to power outlet.	• Plug the Control Dock for iPod's AC adapter into a power outlet.	–

【NET/USB】

Symptom	Cause	Countermeasure	Page
When a USB memory device is connected, "USB" is not displayed on the GUI menu.	• The set cannot recognize a USB memory device.	• Check the connection.	18
	• A USB memory device not conforming to mass storage class or MTP standards is connected.	• Connect a USB memory device conforming to mass storage class or MTP standards.	–
	• The set port and the connected port do not match.	• Connect to the port set at "USB Select".	40
	• A USB memory device that the set cannot recognize is connected.	• This is not a malfunction. DENON does not guarantee that all USB memory devices will operate or receive power.	–
	• USB memory device is connected via USB hub.	• Connect the USB memory device directly to the USB port.	–
Files on a USB memory device cannot be played.	• USB memory device is in format other than FAT16 or FAT32.	• Set the format to FAT16 or FAT32. For details, refer to the USB memory device's operating instructions.	–
	• USB memory device is divided into multiple partitions.	• When divided into multiple partitions, only files stored in the top partition can be played.	–
	• Files are stored in a non-compatible format.	• Record the files in a compatible format.	53
	• You are attempting to play a file that is copyright protected.	• Files that are copyright protected cannot be played on this set.	53
The file names are not displayed properly ("..", etc.).	• Characters that cannot be displayed are used.	• This is not a malfunction. On this set, characters that cannot be displayed are replaced with a " . (period)".	–

Symptom	Cause	Countermeasure	Page
Internet radio cannot be played.	• Ethernet cable is not properly connected or network is disconnected.	• Check the connection status.	20
	• Program is being broadcast in non-compatible format.	• Only Internet radio programs in MP3 and WMA can be played on this set.	53
	• The computer's or router's firewall is activated.	• Check the computer's or router's firewall settings.	–
	• Radio station is not currently broadcasting.	• Choose a radio station that is currently broadcasting.	55
	• IP address is wrong.	• Check the set's IP address.	34
Files stored on a computer cannot be played.	• Files are stored in a non-compatible format.	• Record in a compatible format.	53
	• You are attempting to play a file that is copyright protected.	• Files that are copyright protected cannot be played on this set.	53
	• Set and computer are connected by USB cable.	• The set's USB port cannot be used for connection to a computer.	–
Server is not found, or it is not possible to connect to the server.	• The computer's or router's firewall is activated.	• Check the computer's or router's firewall settings.	–
	• Computer's power is not turned on.	• Turn on the power.	–
	• Server is not running.	• Launch the server.	–
	• Set's IP address is wrong.	• Check the set's IP address.	32 ~ 34
Cannot connect to preset or favorite radio stations.	• Radio station is not currently broadcasting.	• Wait a while before trying again.	–
	• Radio station is not currently in service.	• It is not possible to connect to radio stations that are no longer in service.	–
For some radio stations, "Server Full" or "Connection Down" is displayed and station cannot be connected to.	• Station is congested or not currently broadcasting.	• Wait a while before trying again.	–
Sound is broken during playback.	• Network's signal transfer speed is slow or communications lines or radio station is congested.	• This is not a malfunction. When playing broadcast data with a high bit rate, the sound may be broken, depending on the communications conditions.	–
Sound quality is poor or played sound is noisy.	• File being played has a low bit rate.	• This is not a malfunction.	–

【Wireless LAN】

Symptom	Cause	Countermeasure	Page
Cannot connect to network.	• The settings of the SSID and network key (WEP) are incorrect.	• Match the network settings with the AVR-4308CI's settings.	33
	• The reception is poor and the signals cannot be received.	• Shorten the distance from the wireless LAN's access point, remove any obstacles and otherwise improve visibility, then try reconnecting. Also install away from microwave ovens and the access points of other networks.	–
	• There are multiple networks and the usable channels overlap.	• Set the access point's channel settings away from the channels used for other networks. Alternatively, connect using a network cable.	–
Played sound is interrupted or sound cannot be played.	• There are multiple networks and the usable channels overlap.	• Set the access point's channel settings away from the channels used for other networks. Alternatively, connect using a network cable.	–

【XM Satellite Radio】

Symptom	Cause	Countermeasure	Page
"CHECK ANTENNA" is displayed in the XM mode.	• AVR-4308CI's XM connector and the XM Mini-Tuner and Home Dock is not properly connected.	• Check that the connections are correct.	18
"NO SIGNAL" is displayed in the XM mode.	• The signal cannot be received.	• Reposition your XM Mini-Tuner and Home Dock antenna.	50
"OFF AIR" is displayed in the XM mode.	• The selected channel is not currently broadcasting.	• Select another channel.	49, 50
Receiving only XM channels 0 and 1.	• The XM Tuner is not activated.	• Contact XM Radio.	49

Specifications

❏ **Audio section**
• **Power amplifer**

Rated output:	Front:
	140 W + 140 W (8 Ω/ohms, 20 Hz ~ 20 kHz with 0.05 % T.H.D.)
	170 W + 170 W (6 Ω/ohms, 1 kHz with 0.7 % T.H.D.)
	Center:
	140 W (8 Ω/ohms, 20 Hz ~ 20 kHz with 0.05 % T.H.D.)
	170 W (6 Ω/ohms, 1 kHz with 0.7 % T.H.D.)
	Surround (A + B):
	140 W + 140 W (8 Ω/ohms, 20 Hz ~ 20 kHz with 0.05 % T.H.D.)
	170 W + 170 W (6 Ω/ohms, 1 kHz with 0.7 % T.H.D.)
	Surround back:
	140 W + 140 W (8 Ω/ohms, 20 Hz ~ 20 kHz with 0.05 % T.H.D.)
	170 W + 170 W (6 Ω/ohms, 1 kHz with 0.7 % T.H.D.)
Dynamic power:	150 W x 2ch (8 Ω/ohms)
	220 W x 2ch (4 Ω/ohms)
Output connectors:	Front, Center, Surround back 6 ~ 16 Ω/ohms
	Surround: A or B 6 ~ 16 Ω/ohms
	A + B 8 ~ 16 Ω/ohms

• **Analog**

Input sensitivity / Input impedance:	200 mV / 47 kΩ/kohms
Frequency response:	10 Hz ~ 100 kHz +1, –3 dB (DIRECT mode)
S/N:	102 dB (DIRECT mode)
Distortion:	0.005 % (20 Hz ~ 20 kHz) (DIRECT mode)
Rated output:	1.2 V

• **Digital**

D/A output:	Rated output — 2 V (at 0 dB playback)
	Total harmonic distortion — 0.008 % (1 kHz, at 0 dB)
	S/N ratio — 102 dB
	Dynamic range — 100 dB
Digital input:	Format — Digital audio interface

• **Phono equalizer (PHONO input — REC OUT)**

Input sensitivity:	2.5 mV
RIAA deviation:	±1 dB (20 Hz to 20 kHz)
S/N:	74 dB (A weighting, with 5 mV input)
Rated output:	150 mV
Distortion factor:	0.03 % (1 kHz, 3 V)

❏ Video section
- **Standard video connectors**
  Input / output level and impedance: 1 Vp-p, 75 Ω/ohms
  Frequency response: 5 Hz ~ 10 MHz — +0, –3 dB
- **S-Video connectors**
  Input / output level and impedance: Y (brightness) signal — 1 Vp-p, 75 Ω/ohms
  C (color) signal — 0.286 Vp-p, 75 Ω/ohms
  Frequency response: 5 Hz ~ 10 MHz — +0, –3 dB
- **Color component video connector**
  Input / output level and impedance: Y (brightness) signal — 1 Vp-p, 75 Ω/ohms
  P_B / C_B signal — 0.7 Vp-p, 75 Ω/ohms
  P_R / C_R signal — 0.7 Vp-p, 75 Ω/ohms
  Frequency response: 5 Hz ~ 100 MHz — +0, –3 dB (when video convert set to "OFF")

❏ Tuner section

	[FM]	[AM]
(note: µV at 75 Ω/ohms, 0 dBf = 1 x 10^{-15} W)		
Receiving Range:	87.5 MHz ~ 107.9 MHz	520 kHz ~ 1710 kHz
Usable Sensitivity:	1.0 µV (11.2 dBf)	18 µV
50 dB Quieting Sensitivity:	MONO 1.6 µV (15.3 dBf)	
	STEREO 23 µV (38.5 dBf)	
S/N (IHF-A):	MONO 77 dB	
	STEREO 72 dB	
Total harmonic Distortion (at 1 kHz):	MONO 0.15 %	
	STEREO 0.3 %	

❏ HD Radio section

	[FM]	[AM]
(note: µV at 75 Ω/ohms, 0 dBf = 1 x 10^{-15} W)		
Receiving Range:	87.5 MHz ~ 107.9 MHz	530 kHz ~ 1710 kHz
Usable Sensitivity:	1.0 µV (11.2 dBf)	18 µV
50 dB Quieting Sensitivity:	MONO 1.6 µV (15.3 dBf)	
	STEREO 23 µV (38.5 dBf)	
S/N (IHF-A):	MONO 77 dB	
	STEREO 72 dB	
	HD 85 dB	85 dB
Total harmonic Distortion (at 1 kHz):	MONO 0.15 %	
	STEREO 0.3 %	
	HD 0.01 %	0.01 %

❏ Wireless LAN
Network type (wireless LAN standards) : Conforming to IEEE 802.11b
Conforming to IEEE 802.11g
(Conforming to Wi-Fi®) ∗
Transfer rate: DS-SS: 11 / 5.5 / 2 / 1 Mbps (Automatic switching)
OFDM: 54 / 48 / 36 / 24 / 18 / 12 / 9 / 6 Mbps (Automatic switching)
Security: SSID (Network name)
WEP key (network key) (64/128 bits)
WPA-PSK (TKIP/AES)
WPA2-PSK (TKIP/AES)
Used frequency range: 2,412 MHz ~ 2,462 MHz
No. of channels: Conforming to IEEE 802.11b : 11ch (DS-SS) (Of which 1 channel used)
Conforming to IEEE 802.11g : 11ch (OFDM) (Of which 1 channel used)

❏ General
Power supply: AC 120 V, 60 Hz
Power consumption: 8.1 A
0.3 W Max (Standby)
Maximum external dimensions: 434 (W) x 195 (H) x 455 (D) mm (17-3/32" x 7-43/64" x 17-29/32")
Mass: 18.9 kg (41 lbs 11 oz)

❏ Main remote control unit (RC-1068)
Batteries: LR6/AA Type (two batteries)
Maximum external dimensions: 63 (W) x 238 (H) x 31 (D) mm (2-31/64" x 9-3/8" x 1-7/32")
Mass: 190 g (Approx 6.7 oz) (including batteries)

❏ Sub remote control unit (RC-1070)
Batteries: R03/AAA Type (two batteries)
Maximum external dimensions: 49 (W) x 220 (H) x 24.5 (D) mm (1-59/64" x 8-21/32" x 31/32")
Mass: 114 g (Approx 4 oz) (including batteries)

∗ : Wi-Fi® conformity indicates tested and proven interoperability by the "Wi-Fi Alliance", a group certifying interoperability among wireless LAN devices.

※ For purposes of improvement, specifications and design are subject to change without notice.

List of preset codes / Liste de codes préréglés

Denon Amp

D	Denon	81001, 82001, 83001, 84001

Denon Tuner

D	Denon (Analog)	52863, 52795, 52800, 52805
	Denon (XM Radio)	52864, 52812, 52813, 52814

Denon Digital Tuner

D	Denon (NET)	62865, 62837, 62838, 62839
	Denon (HD Radio)	62840, 62841, 62842, 62843

Denon iPod

D	Denon	72815, 72816, 72817, 72818

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A	A-Mark	00008, 00144
	ABC	00237, 00003, 00008
	Accuphase	00003
	Acorn	00237
	Action	00237
	Active	00237
	ADB	01230
	Aichi Denshi	01512
	Americast	00899
	Amstrad	01222
	Archer	00237
	Auna	01230
	Austar	00276
B	BCC	00276
	Bell South	00899
	Bestlink	00303
	Birmingham Cable Communications	00276
	British Telecom	00003
C	Cable & Wireless	01068
	Century	00008
	Coship	01462
D	Daehan	00778
	Daeryung	01877, 00877, 00477, 00008
	Digeo	01187
	Director	00476
	DX Antenna	01500
E	Emerson	00303
	Encon	00008
F	Fosgate	00276
	Foxtel	01222
	France Telecom	00817

	Freebox	01482
	Fujitsu	01497
G	Galaxi	00008
	GE	00237, 00144
	Gehua	00476
	General Instrument	00476, 00810, 00276, 00003
	Gibralter	00003
	GNI	01466
	GoldStar	00144
H	Hitachi	00003, 00008
	Hongtian Jiangsu	01462
	Hwalin	00303
I	Insight	00476, 00810
J	Jerrold	00476, 00810, 00276, 00003
	Jiuzhou	01445
K	KNC	00008
L	LG	00144
M	Macab	00817
	Madritel	01230
	Maspro	01510
	Matav	01082
	Memorex	00000
	Mitsubishi	00003
	Motorola	01376, 00476, 00810, 00276, 01187
	MS	00303
N	NEC	01496
	Noos	00817
	Nova Vision	00008
	Novaplex	00008
	NTL	00276, 00003, 01060, 01068
O	Oak	00303
	Ono	01068
	Optus	00276, 01060
P	Pace	01877, 00877, 00237, 00008, 01060, 01068, 01577
	Panasonic	00000, 00008, 00144, 01488
	Paragon	00000, 00008, 00525
	Penney	00000
	Philips	01305, 00317, 00817
	Pioneer	01877, 00877, 00144, 00533, 01500
	Pulsar	00000
	PVP Stereo Visual Matrix	00003
Q	Quasar	00000
R	RadioShack	00303
	Regal	00276
	Runco	00000
S	Sagem	00817
	Salora	00000

	Samsung	00003, 00000, 00144, 00778, 00840, 01060, 01666
	Scientific Atlanta	01877, 00877, 00477, 00237, 00003, 00000, 00008, 01510
	Skyworth	01464
	Sony	01006, 01460
	Sprucer	00144
	Starcom	00003
	StarHub	00276
	Sumitomo	01500, 01504
	Supercable	00276
T	Taihan	00778
	TCL	01445
	Telewest	01068
	Time Warner cable	01877
	TongKook	00840
	Torx	00003
	Toshiba	00000, 01509
	Trans PX	00276, 00303
	TS	00003, 00303
U	United Cable	00276, 00003
	US Electronics	00276, 00003, 00008
V	Videoway	00000
	Visiopass	00817
Z	Zenith	00000, 00525, 00899

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A	Americast	00899
D	Digeo	01187
F	Freebox	01482
G	General Instrument	00810
J	Jerrold	00810
M	Motorola	01376, 00810, 01187
P	Pace	01877, 00237
	Pioneer	01877, 00877
S	Scientific Atlanta	01877, 00877
	Sony	01006
	Supercable	00276
T	Time Warner cable	01877
Z	Zenith	00899

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A	Acoustic Research	40420
	Advantage	40032
	Aiwa	40157
	Arcam	40157
	Audio Research	40157
	Audiolab	40157
	Audiomeca	40157

	Audioton	40157
	AVI	40157
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	Burmester	40420
	Bush	40388
C	Cairn	40157
	California Audio Labs	40029, 40303
	Cambridge	40157
	Cambridge Audio	40157
	Cambridge Soundworks	40157
	Carver	40157, 40179
	CDC	40420
	CEC	40420
	Copland	40393
	Curtis Mathes	40032
	Cyrus	40157
D	Denon	40873, 40003, 40766, **[42867]** *, 42868
	DKK	40000
	DMX Electronics	40157
	Dual	40003
	Dynaco	40157
	Dynamic Bass	40179
F	Fisher	40000, 40179
G	Garrard	40393, 40420
	Genexxa	40000, 40032, 40037, 40179
	Goldmund	40157
	Grundig	40157
H	Hafler	40173
	Harman/Kardon	40100, 40157, 40173
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I	Inkel	40157
	Integra	40101
J	Jerrold	40003
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K	Kenwood	40681, 40000, 40029, 40157, 40028, 40037, 40036, 40190
	KLH	41318
	Krell	40157
L	Linn	40157
	Loewe	40157
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N	NAD	40000, 40721
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O	Onkyo	40868, 40101
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P	Panasonic	40029, 40303, 40388, 40752
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	Polk Audio	40157
	Proceed	40420
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R	Radiola	40157
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	Tandy	40032
	Tascam	40393, 40420
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	Technics	40029, 40303
	Techwood	40303
	Thomson	40053
	Thorens	40157
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U	Universum	40157, 40053
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W	Wadia	40393
	Wards	40000, 40032, 40157, 40053, 40087, 40179
Y	Yamaha	40490, 40868, 40032, 40036
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D	Denon	40766, 42868
J	JVC	40072
R	RCA	40053, 40420
S	Sony	40000, 40100, 41364
T	Teac	40420
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A	Aiwa	20029, 20197, 20200, 21315
	Akai	20283, 20439
	Arcam	20076
	Audiolab	20029
C	Carver	20029
D	Denon	20076, 20371, 21311, **[22471]** *
F	Fisher	20074
G	Garrard	20308, 20309, 20375, 20439
	Genexxa	20439
	GoldStar	20375
	Grundig	20029, 20375
H	Harman/Kardon	20182, 20029, 21314
I	Inkel	20070, 20071, 20337
J	JVC	20244, 20273, 20274, 20303, 20304, 20310, 21309
K	Kenwood	20070, 20071, 20092, 20233, 20234, 21364
L	LG	20375
	Luxman	20308, 20309
M	Magnavox	20029
	Marantz	20029, 20009
	Memorex	20099
	Mitsubishi	20283, 20439
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O	Onkyo	20135, 20136, 20282
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P	Palladium	20375
	Panasonic	20229
	Philips	20029, 20229
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	Pioneer	20027, 20220, 20099, 20109, 21306, 21312
	Polk Audio	20029
R	Radiola	20029
	RCA	20027, 20220
	Revox	20029
S	Sansui	20029, 20009
	Sanyo	20074
	Sharp	20231, 20371
	Sherwood	20337
	Sonic	20375
	Sony	20243, 20170, 20291, 20234, 21313
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	Tandberg	20109
	Teac	20280, 20283, 20289, 20308, 20309
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	Thorens	20029
U	Universum	20375, 20439
V	Victor	20244, 20273, 20274
W	Wards	20027, 20029
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Y	Yamaha	20097, 20094

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	Accurian	01653
	Alienware	01272
C	CyberPower	01272
D	D-Link	01554
	Dgtec	01363
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L	LG	01415
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N	Niveus Media	01272
	Northgate	01272
P	Packard Bell	01272
	Panasonic	01120
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	Sharp	01010
	SMC	01456
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V	Viewsonic	01272, 01329
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A	@sat	01300
	@Sky	01334
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	ABsat	00123, 00713
	ADB	00642, 01259, 01367, 01418, 01473, 01491
	AGS	00710
	Aiwa	01514
	Akai	00200
	Alba	00455, 00713, 01284, 01659, 01811
	Allsat	00200, 01043
	Alltech	00713
	Allvision	01232, 01334, 01412
	AlphaStar	00772
	Amitronica	00713
	Amstrad	00345, 00713, 00795, 00847, 00863, 00882, 01113, 01175, 01693, 01801
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	AntSat	01083
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	ASLF	00713
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C	Canal	00853
	Canal Digital	00853, 01622
	Canal Satellite	00853, 01339, 01853
	Canal+	00853
	Centrex	01457
	CGV	01413, 01567
	Chaparral	00216
	Cherokee	00123, 00710
	Chess	00713, 01085, 01334, 01626
	Chili	01718
	CityCom	00299, 00394, 00818, 01075, 01176, 01232
	Classic	01672
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	Condor	01700
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	Contec	00394
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D	D-box	00723, 00873, 01114
	Daewoo	00713, 01111, 01296, 01743
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	Dgtec	01542, 01631, 01242
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E	Echostar	01505, 01005, 00775, 00455, 00610, 00713, 00853, 00871, 01086, 01200, 01323, 01409, 01418, 01473, 01775
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Esat	00879	**H** Handan	01622	Kosmos	00442, 01333	MTEC	01214	Philips	01142, 00749, 01749, 00775, 00724, 00819, 01076, 00722, 00099, 00710, 00455, 00818, 00200, 00847, 00853, 00173, 01114, 00133, 01442, 01543, 01672
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Europa	00863	HDT	01159	**L** L&S Electronic	01043, 01334			Phonotrend	00863, 01200
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Eurosky	00262, 00299	Hirschmann	00125, 00173, 00299, 00710, 00882, 01085, 01111, 01232, 01412	LaSAT	00173, 00299	Myryad	00200	Pino	01334
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Finlandia	00455	Hornet	01300	Lenoxx	01611	Netsat	00099, 00887	Polytron	00394
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Iberia	10037
ICE	10037, 10217, 10218, 10264, 10371
ICeS	10218
Iiyama	10877, 11217
Ima	10236, 10180, 10178

Brand	Code
Imperial	10037, 10074, 10370, 10418
Imperial Crown	10001, 10009, 10264, 10374, 10661
Indiana	10037
Infinity	10054
InFocus	11164
Ingelen	10163, 10487, 10610, 10714
Ingersol	10009
Inno Hit	10009, 10217, 10218, 11163
Innova	10037
Innowert	10865, 11298
Inotech	10773, 10820
Insignia	10171, 11517
Inteq	10017, 10145
Interbuy	10009, 10037, 10264
Interfunk	10037, 10109, 10163, 10200, 10327, 10361, 10512
Internal	10037, 11909
Intervision	10009, 10037, 10217, 10218, 10264, 10394, 10455, 10486, 10487
Irradio	10009, 10037, 10218, 10371
Isukai	10037, 10218, 10455
ITC	10217
ITS	10037, 10218, 10264, 10371
ITT	10163, 10208, 10346, 10361, 10480, 10548, 10610
ITT Nokia	10070, 10163, 10195, 10208, 10346, 10361, 10480, 10548, 10606, 10610
ITV	10037, 10264, 10374
IX	10877

J

Brand	Code
JBL	10054
JCB	10000
JDV	11982
Jean	10156, 10051, 10236, 10092, 10009, 10036
JEC	10035
Jensen	10761, 10815, 10817, 11933
Jiahua	10051
JiaLiCai	10009, 10264
JIL	10030
Jinfeng	10051, 10208, 10226, 10817
Jinque	10009, 10264, 10817
Jinta	10009, 10264
Jinxing	10054, 10156, 10145, 10009, 10037, 10264, 10556, 10698, 10817, 10821, 11011
JMB	10443, 10499, 10556, 10634
JNC	10876
Jocel	10712
Johnson	10455
Jubilee	10556
Juhua	10264, 10817
Jutan	10030

Brand	Codes
JVC	10054, 10093, 10463, 10053, 10030, 10070, 10036, 10218, 10371, 10418, 10508, 10606, 10650, 10653, 10683, 10731, 11253, 11923

K

Brand	Codes
Kaige	10009, 10264, 10817
Kaisui	10009, 10037, 10217, 10218, 10455
Kambrook	10217
Kamp	10017, 10180, 10217
Kangli	10001, 10009, 10264, 10374, 10661, 10817
Kangyi	10009, 10264
Kapsch	10163, 10361
Karcher	10264, 10370, 10606, 10610, 10714, 10778, 11556
Kathrein	10556
Kawa	10371
Kawasho	10030
KB Aristocrat	10163
KDS	11498
KEC	10180, 10060
Kendo	10037, 10362, 10370, 10610, 10648, 11037
Kennedy	10163
Kennex	10668, 11037
Kenwood	10180, 10030
Khind	10706
KIC	10217
Kiota	10001, 10371, 10455
Kioto	10706, 10556
Kiton	10037, 10668
KLH	10156, 10180, 10765, 10767, 11962
KLL	10037
Kloss	10030
Kneissel	10037, 10362, 10370, 10374, 10499, 10556, 10610
Kolin	10180, 10150, 10053, 10036, 10108, 11331
Kolster	10037, 10218
Kongque	10009, 10264, 10817
Konichi	10009
Konig	10037
Konka	10180, 10037, 10218, 10371, 10418, 10587, 10641, 10714, 10817, 11084
Kontakt	10487
Korpel	10037
Korting	10370
Kosmos	10037
Koyoda	10009
Kreisen	10876
KTV	10463, 10180, 10030, 10217
Kuaile	10009, 10264
Kulun	10009
Kunlun	10051, 10208, 10226, 10264, 10374, 10661, 10817
Kyoshu	10418
Kyoto	10163, 10217

L

Brand	Codes
L&S Electronic	10714, 10808, 10865
Lark	10154
LaSAT	10486
Lavis	11037
Leader	10009
Lecson	10037
Legend	10009
Lenco	10037, 10374, 10587
Lenoir	10009
Lexsor	11196
Leyco	10037, 10264
LG	10054, 11265, 10060, 10178, 10030, 11758, 11637, 11191, 11178, 10856, 10715, 10714, 10700, 10698, 10556, 10370, 10361, 10217, 10163, 10109, 10108, 10037, 10009, 10001
Liesenk & Tter	10037
Liesenkotter	10037, 10327
Lifetec	10009, 10037, 10218, 10374, 10668, 10683, 10714, 11037, 11137
Lihua	10817
Lloyd's	10236, 10180, 10030, 10001, 10009, 11904
Local India TV	10009, 10208, 10602
Local Malaysia TV	10698
Lodos	11037
Loewe	10037, 10370, 10512, 10633, 10790
Logik	10236, 10180, 10060, 10001, 10009, 10011, 10371, 10698, 10773, 10880, 11037, 11217
Logix	10668
Longjiang	10264, 10817
Luker	11982
Luma	10009, 10163, 10362, 10374, 11037
Lumatron	10037, 10073, 10163, 10217, 10264, 10361, 10556
Lux May	10009, 10037
Luxor	10163, 10208, 10217, 10346, 10361, 10480, 10548, 10631, 11037, 11163
LXI	10047, 10054, 10017, 10154, 10000, 10156, 10051, 10093, 10060, 10053, 10178, 10030, 10171, 10166, 10037, 10036, 10035, 10001, 10208

M

Brand	Codes
M Electronic	10009, 10037, 10109, 10163, 10195, 10217, 10287, 10343, 10346, 10374, 10480, 10512, 10634, 10661, 10714
Madison	10037
MAG	11498
Magnadyne	10054, 10163
Magnafon	10073
Magnasonic	10054, 10000, 10156, 10093, 10030, 10092, 10109
Magnavox	10047, 11454, 10054, 10154, 10000, 10250, 10051, 10180, 10060, 10030, 10171, 10092, 10706, 11944, 11904, 11755, 11254, 10802, 10780, 10011, 10035, 10037, 10036
Magnum	10037, 10648, 10714, 10715
Majestic	10017
Mandor	10264
Manesth	10035, 10037, 10217, 10264
Manhattan	10037, 10668, 10778, 10876, 11037, 11267
Marantz	11454, 10054, 10030, 10037, 10556, 10704, 10855
Mark	10009, 10037, 10217, 10374, 10714, 10715
Master's	10499
Mastro	10053, 10706, 10698, 10780
Masuda	10009, 10037, 10217, 10218, 10264, 10371
Matsui	11037, 10744, 10714, 10556, 10487, 10455, 10443, 10433, 10371, 10352, 10335, 10217, 10208, 10195, 10163, 10037, 10036, 10035, 10011, 10009
Matsushita	10250, 10051, 10650
Maxdorf	10773
Maxent	11755, 11756
Maxim	11556, 11982
MCE	10009
Meck	10698
Mediator	10037, 10556
Medion	10037, 10512, 10556, 10668, 10698, 10714, 10808, 10880, 11037, 11137, 11248, 11900
Megapower	10700
Megas	10610
Megatron	10047, 10178, 10145, 10009
MEI	11037
Meile	10264, 10817
Memorex	10154, 10250, 10463, 10180, 10150, 10060, 10178, 10030, 10009, 10035, 10037, 10195, 10877, 11037, 11911
Memphis	10009
Mercury	10060, 10001, 10009, 10037
Mermaid	10037
Metronic	10625
Metz	10037, 10195, 10367, 10388, 10447, 10587, 10668, 10746, 11163
MGA	10150, 10178, 10030, 10218, 10374
MGN Technology	10178
Micro Genius	10150
Micromaxx	10037, 10668, 10714, 10808, 11037
Microstar	10808
MicroTEK	10820, 10860
Midland	10047, 10017, 10051
Mikomi	11037, 11149
Minato	10037, 10556
Minerva	10070, 10108, 10195, 10487
Minoka	10037
Mirror	11900
Mitsubishi	10154, 10250, 10093, 10236, 10180, 11250, 10150, 10178, 10030, 11917, 11037, 10836, 10817, 10556, 10512, 10195, 10108, 10037, 10036, 10011
Mivar	10217
Monaco	10009
Monivision	10700, 10843
Morgan's	10037
Motorola	10054, 10051, 10093, 10150
MTC	10180, 10060, 10030, 10092, 10011, 10370, 10512
MTlogic	10714
Mudan	10051, 10009, 10208, 10226, 10264, 10817
Multitec	10037, 10486, 10668, 11037, 11556
Multitech	10180, 10009, 10037, 10217, 10264, 10370, 10486
Murphy	10163
Musikland	10218
Mx Onda	11498
Myryad	10556

N

Brand	Codes
NAD	10156, 10178, 10166, 10037, 10361, 10866, 11156
Naiko	10037, 10606, 11982
Nakimura	10037, 10374
Nanbao	10009, 10264
Nansheng	10264, 10817
Narita	11982
NAT	10226
National	10051, 10208, 10226, 10508
NEC	10047, 10154, 10156, 10051, 10053, 10178, 10030, 11704, 11270, 11170, 10817, 10704, 10661, 10653, 10508, 10499, 10455, 10374, 10264, 10217, 10170, 10036, 10011, 10009
Neckermann	10037, 10200, 10327, 10370, 10418, 10556
NEI	10037, 10163, 10371
Neovia	10865, 10876, 11371
Netsat	10037
NetTV	11755
Neufunk	10009, 10037, 10218, 10556, 10610, 10714
New Tech	10009, 10037, 10217, 10343, 10556
New World	10218
Newave	10093, 10178, 10092, 10009
Nikkai	10009, 10035, 10036, 10037, 10163, 10217, 10218, 10264
Nikkei	10714
Nikko	10178, 10030, 10092
Nikkodo	10178, 10030, 10092
Nishi	10030
Nobliko	10070
Nogamatic	10109
Nokia	10163, 10208, 10346, 10361, 10374, 10480, 10548, 10606, 10610, 10631
Norcent	10748, 10824
Nordic	10217
Nordmende	10037, 10109, 10195, 10287, 10343, 10560, 10714
Normerel	10037
Novatronic	10037, 10374
NTC	10092
Nu-Tec	10455, 10698, 10820
Nyon	10000

O

Brand	Codes
Oceanic	10163, 10208, 10361, 10548
Odeon	10264
Okano	10009, 10037, 10264, 10370
Olevia	11144, 11240, 11331, 11610
Omega	10264
Omni	10748, 10698, 10780, 10872
Onida	10053, 11253
Onimax	10714
Onwa	10180, 10218, 10371, 10433, 10602
Opera	10037
Optimus	10154, 10250, 10093, 10180, 10150, 10178, 10030, 10166, 10650
Optoma	10887
Optonica	10093
Orbit	10037
Orcom	11504
Orion	10017, 10236, 10463, 10180, 10178, 11463, 10011, 10037, 10264, 10443, 10556, 10714, 10880, 11196, 11911
Orline	10037, 10218
Ormond	10668, 11037
Osaki	10037, 10217, 10218, 10264, 10374, 10556
Osio	10037
Oso	10218
Osume	10036, 10037, 10218
Otic	11498
Otto Versand	10093, 10036, 10037, 10109, 10195, 10217, 10226, 10343, 10361, 10512, 10556

P

Brand	Codes
Pace	10092
Pacific	10037, 10443, 10556, 10714, 11037, 11137
Palladium	10037, 10163, 10200, 10217, 10327, 10370, 10418, 10556, 10714, 11137
Palsonic	10001, 10037, 10217, 10218, 10264, 10418, 10698, 10773, 10778, 11196, 11269, 11904
Panama	10009, 10037, 10217, 10264
Panashiba	10001

Brand	Codes
Panasonic	10054, 10000, 10156, 10250, 10051, 10236, 10030, 11947, 11946, 11941, 11480, 11310, 11291, 11271, 10853, 10650, 10548, 10508, 10367, 10361, 10226, 10208, 10163, 10108, 10037, 10035
Panavision	10037
Panda	10051, 10706, 10009, 10208, 10226, 10264, 10508, 10698, 10780, 10817, 10821
Pathe Cinema	10163
Pathe Marconi	10109
Pausa	10009
Paxonic	10060, 10030
PCE	10156, 10060
Penney	10047, 10000, 10156, 10250, 10051, 10060, 10178, 10030, 10035, 10036, 10037, 10070, 10108, 11347
Perdio	10037, 10163
Perfekt	10037
Petters	11523
Philco	10054, 10451, 10463, 10180, 10178, 10030, 10145, 11661, 10037, 10074, 10163, 10370, 10418
Philharmonic	10217
Philips	11454, 10054, 10017, 10000, 10051, 10178, 10030, 10171, 10092, 11961, 11756, 11254, 10690, 10556, 10512, 10374, 10361, 10343, 10200, 10108, 10037, 10009
Phocus	10714
Phoenix	10037, 10163, 10370, 10486
Phonola	10037, 10556
Pilot	10051, 10060, 10178, 10030, 10706, 10011
Pioneer	10166, 10011, 10037, 10109, 10163, 10170, 10287, 10361, 10370, 10486, 10512, 10679, 10760, 10866, 11260
Pionier	10370, 10486, 11556
Plantron	10009, 10037, 10264
Playsonic	10037, 10217, 10714, 10715
Polaroid	10765, 10865, 11276, 11316, 11341, 11498, 11523
Poppy	10009
Portland	10451, 10092, 10374
Powerpoint	10037, 10487, 10698
Prandoni-Prince	10361
Precision	10236, 10180, 10217
Premier	10009, 10264
President	10860
Prima	10761, 10009, 10264, 10783, 10815, 10817, 11269, 11933
Princeton	10700
Prinston	11037
Prinz	10361
Prism	10250, 10051
Profex	10009, 10163, 10361
Profi	10009
Profilo	11556
Profitronic	10037
Proline	10037, 10073, 10625, 10634, 11037
Proscan	11447, 10047, 11347, 11922
Prosco	10156
Prosonic	10037, 10217, 10370, 10371, 10374, 10668, 10714
Protec	10009, 10037, 10217, 10264
Protech	10009, 10037, 10217, 10264, 10418, 10486, 10668, 11037
Proton	10178, 10030, 10001, 10009
Proview	11498
ProVision	10037, 10556, 10714, 11037
Pulsar	10017, 10092
Pulser	10178, 10092
Pvision	10876, 11191
Pye	10037, 10374, 10556
Pymi	10009
Q Qingdao	10051, 10208, 10226, 10264, 10817
Quadral	10051, 10218
Quartz	10150, 10178
Quasar	10250, 10051, 10009, 10035, 10650, 10865
Quelle	10011, 10037, 10070, 10074, 10109, 10195, 10200, 10327, 10361, 10512, 10668, 11037
Questa	10036
Questar	10036
R R-Line	10037
Rabbit	10047
Radialva	10163, 10218
Radiola	10037, 10217, 10556
Radiomarelli	10037
RadioShack	10047, 10154, 10180, 10150, 10178, 10030, 10037, 11904
Radiotone	10009, 10037, 10264, 10370, 10418, 10648, 10668, 11037
Rank	10070
Rank Arena	10036, 10602
RBM	10070
RCA	11447, 10047, 11454, 10054, 10000, 10051, 10093, 10178, 10030, 10092, 11958, 11953, 11948, 11922, 11917, 11547, 11347, 11247, 11147, 11047, 10679, 10625, 10560, 10090
Realistic	10047, 10154, 10180, 10150, 10178, 10030
Recor	10037, 10418
Rectiligne	10037
Rediffusion	10036, 10163, 10346, 10361, 10548
Redstar	10037
Reflex	10037, 10668, 11037
Relisys	10865, 10876, 10877, 11207, 11298
Remotec	10250, 10093, 10145, 10171, 10037
Reoc	10714
Revox	10037
Rex	10163, 10264
RFT	10037, 10264
Rinex	10773
Roadstar	10009, 10037, 10218, 10264, 10418, 10668, 10714, 11037, 11900
Rolson	11371
Rover	10036, 10877
Rowa	10748, 10009, 10037, 10264, 10587, 10698, 10712, 10817
Royal Lux	10335, 10370
Runco	10017, 10060, 10030
Ruyi	10817
S Saba	10250, 10109, 10163, 10287, 10335, 10343, 10361, 10498, 10548, 10560, 10625, 10714
Sagem	10455, 10610, 10618
Saige	10009, 10817
Saisho	10009, 10011, 10163, 10217, 10264
Saivod	10037, 10668, 10712, 11037, 11163, 11556, 11982
Sakai	10163
Sakyno	10455
Salora	10163, 10208, 10361, 10480, 10548, 10631
Salsa	10335
Sampo	10047, 10154, 10093, 10178, 10030, 10171, 10092, 10009, 10036, 10650, 10700, 11755, 11756
Samsung	10047, 10054, 10017, 10154, 10156, 10093, 10060, 10812, 10702, 10178, 10030, 10092, 10814, 10766, 10718, 10618, 10587, 10817, 10821, 11060, 11249, 11312, 11903, 11959, 10556, 10371, 10370, 10362, 10264, 10226, 10217, 10208, 10163, 10090, 10037, 10036, 10035, 10009
Sandra	10217
Sanjian	10264
Sanky	10060, 10030
Sansui	10463, 10060, 10030, 10706, 10037, 10371, 10455, 10602, 10714, 10861, 11371, 11537, 11904, 11911
Santon	10009
Sanyo	10047, 10054, 10154, 10000, 10156, 10463, 10180, 10145, 10171, 11755, 11208, 10704, 10508, 10370, 10264, 10217, 10208, 10170, 10163, 10108, 10088, 10037, 10036, 10011, 10009
Sanyong	10037
Sanyuan	10093, 10009, 10817
Saville	10060
SBR	10037, 10556
Sceptre	11217
Schaub Lorenz	10361, 10374, 10486, 10548, 10606, 10714, 11191
Schneider	11982, 11904, 11137, 11037, 10714, 10668, 10648, 10556, 10394, 10371, 10361, 10352, 10343, 10218, 10217, 10163, 10070, 10037
Scotch	10178
Scotland	10163
Scott	10236, 10180, 10178, 10030
Sears	10047, 10054, 10017, 10154, 10000, 10156, 10051, 10093, 10060, 10053, 10178, 10030, 10171, 10166, 10035, 10036, 10037, 10001, 10208, 11904
Seaway	10634
Seelver	11037
SEG	10009, 10036, 10037, 10217, 10218, 10264, 10362, 10487, 10668, 11037, 11163
SEI	10037, 10163
Sei-Sinudyne	10037
Seleco	10163, 10264, 10346, 10362, 10371
Semivox	10180
Semp	10156
Sencora	10009
Sentra	10035
Serino	10093, 10455, 10610
Shancha	10264, 10817
Shanghai	10009, 10208, 10226, 10264, 10817
Shaofeng	10145, 10817
Sharp	10054, 10093, 10180, 10053, 10030, 10009, 10036, 10200, 10650, 10653, 10668, 11193, 11393, 11917
Shen Ying	10092, 10009
Shencai	10145, 10009, 10264
Sheng Chia	10093, 10236, 10009
Shenyang	10009, 10264, 10817
Sherwood	10009
Shintoshi	10037
Shivaki	10178, 10037, 10374, 10443, 10556
Show	10009, 10418
Siarem	10163
Siemens	10145, 10037, 10195, 10200, 10327
Siera	10037, 10556
Siesta	10370
Signature	10047, 10093, 10030
Silva	10037, 10361, 10648
Silva Schneider	10037, 11556
Silvano	10587
Silver	10036, 10361, 10455, 10715
SilverCrest	11037
Simpson	10178, 10030, 10011
Singer	10060, 10092, 10009, 10037, 10335, 10371, 10433, 11537
Sinotec	10773
Sinudyne	10037, 10163, 10361
Skantic	10163
SKY	10037, 10880, 11504
Sky Brazil	10880
Sky-North	10037
Skygiant	10180
Skyworth	10748, 10009, 10037, 10264, 10698, 10805, 10817, 11115
Sliding	10865, 10880
SLX	10668
Smaragd	10487
Soemtron	10865, 11298
Solar Drape	10000
Solavox	10037, 10163, 10361, 10548
Sole	10813
Sonawa	10218
Songba	10009
Soniko	10037
Sonitron	10208, 10217, 10370
Sonneclair	10037
Sonoko	10009, 10037, 10217, 10264
Sonolor	10163, 10208, 10361, 10548
Sontec	10009, 10037, 10370
Sony	10017, 10154, 11100, 10000, 10150, 10053, 10011, 10036, 10037, 10074, 10353, 10650, 11505, 11651, 11751, 11904
Sound & Vision	10218, 10374
Soundesign	10180, 10178
Soundwave	10037, 10418, 10715
Sova	11952
Sowa	10156, 10051, 10060, 10178, 10092, 10036, 10226
Soyea	10773
Spectra	10009
Spectravision	10156, 10178
Spectroniq	11498
Squareview	10171
SR2000	10154, 10171
Ssangyong	10009
SSS	10180
Staksonic	10009
Standard	10009, 10037, 10217, 10218, 10374, 11037
Standard Components	10009, 10218
Starlite	10236, 10180, 10009, 10037, 10163, 10264
Stenway	10218
Stern	10163, 10264
Stevison	11982

Brand	Codes
Strato	10009, 10037, 10264
Strong	11149, 11163
Studio Experience	10843
Stylandia	10217
Sunkai	10218, 10455, 10487, 10610, 10865
Sunstar	10009, 10037, 10264, 10371
Sunwatt	10455
Sunwood	10037
Superla	10217
Superscan	10093, 10864, 11944
Supersonic	10009, 10208, 10455, 10805
SuperTech	10009, 10037, 10218, 10556
Supra	10178, 10009, 10374
Supreme	10000
Susumu	10218, 10287, 10335
Sutron	10009
SV2000	10054
SVA	10748, 10587, 10865, 10870, 10871, 10872
Svasa	10455
Swisstec	10880, 11504
Sydney	10217
Sylvania	10047, 10054, 10154, 10000, 10051, 10178, 10030, 10171, 10092, 10036, 10037, 10876, 11271, 11904, 11944
Symphonic	10000, 10180, 10178, 10171, 11904, 11944
Synco	10000, 10451, 10093, 10060, 10178, 10092, 10036
Syntax	11144, 11240, 11331
Sysline	10037
T T+A	10447
Tacico	10178, 10092, 10009
Tai Yi	10009
Taishan	10009, 10374, 10817
Tandberg	10109, 10361, 10367
Tandy	10093, 10163, 10217, 10218
Targa	11371
Tashiko	10092, 10036, 10163, 10170, 10217, 10650
Tatung	10054, 10154, 10000, 10156, 10051, 10060, 10037, 10036, 10011, 10009, 10217, 11156, 11191, 11248, 11254, 11371, 11556, 11756
TCL	10706, 10698, 11027, 11537
TCM	10714, 10808
Teac	10154, 10178, 10171, 10706, 11755, 11149, 11037, 10714, 10712, 10698, 10668, 10512, 10455, 10418, 10264, 10217, 10170, 10037, 10009
Tec	10009, 10037, 10163, 10217, 10335
Tech Line	10037, 10668, 11163
Techica	10218
Technica	11982

Brand	Codes
Technics	10054, 10250, 10051, 10226, 10556, 10650
TechniSat	10556, 11267
Technisson	10714
Technosonic	10499, 10556
Technovox	10030, 10217
Techview	10847
Techwood	10250, 10051, 10060, 11163
Tecnimagen	10556
Teco	10051, 10093, 10178, 10092, 10009, 10036, 10218, 10264, 10653, 11040
Tedelex	10009, 10208, 10217, 10418, 10606, 10698, 11537
Teiron	10009
Tek	10820
Teknika	10054, 10463, 10180, 10150, 10060, 10178, 10092
Tele System Electronic	10876
Teleavia	10287, 10343
Telecolor	10017
Telecor	10037, 10163, 10217, 10218, 10394
Telefunken	10702, 11504, 10821, 10820, 10819, 10714, 10712, 10698, 10625, 10587, 10560, 10498, 10486, 10346, 10343, 10335, 10287, 10109, 10074, 10073, 10037
Telefusion	10037
Telegazi	10037, 10163, 10218, 10264
Telemeister	10037
Telesonic	10037
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Teletech	10009, 10037, 10668, 11037
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Tempest	10009, 10264, 10455
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Tensai	10009, 10037, 10217, 10218, 10371, 10374, 10715, 11037
Tenson	10009
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Thomas	10047, 10178, 10001, 11904
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Thorn	10035, 10036, 10037, 10073, 10074, 10109, 10163, 10264, 10335, 10343, 10361, 10499, 10512
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Tiny	11269
TMK	10236, 10180, 10178
TML	11756
TNCi	10017
Tobishi	10218
Tobo	10748, 10009, 10264
Tocom	10156
Tokai	10009, 10037, 10163, 10217, 10374, 10668, 11037
Tokaido	11037
Tokyo	10035
Tomashi	10218
Tongguang	10264
Tongtel	10587, 10780
Topline	10668, 11037
Toshiba	10154, 11256, 10156, 10150, 11265, 10060, 11145, 10145, 10166, 11037, 11156, 11163, 11164, 11356, 11508, 11556, 11656, 11704, 11945, 11971, 10845, 10821, 10718, 10650, 10618, 10508, 10264, 10217, 10195, 10109, 10070, 10036, 10035, 10011, 10009
Totevision	10051
Towada	10217
Toyoda	10009, 10264, 10371
Toyomenka	10178
Trakton	10217, 10264
Trans Continens	10037, 10217, 10668, 11037
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Transonic	10009, 10037, 10264, 10418, 10455, 10512, 10587, 10698, 10712, 10780
Triad	10218, 10556
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Trio	11498
Tristar	10218, 10264
Triumph	10037, 10346, 10556
Truetone	10250, 10051
Tuntex	10030, 10092, 10009
TVS	10463
TVTEXT 95	10556
U Uher	10037, 10370, 10374, 10418, 10480, 10486
Ultra	10092
Ultravox	10037, 10163, 10374
Unic Line	10037, 10455
United	10037, 10587, 10714, 10715, 11037, 11982
Universal	10047, 10037
Universum	11163, 11037, 10668, 10631, 10618, 10512, 10480, 10418, 10370, 10362, 10361, 10346, 10327, 10264, 10217, 10200, 10195, 10170, 10109, 10074, 10070, 10037, 10036, 10011, 10009

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V V	10864, 10885, 11755, 11756
V2max	10865
V7 Videoseven	10880, 11217, 11755
Vector Research	10030
Vestel	10037, 10217, 10668, 11037, 11163
Vexa	10009, 10037
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Videomac	10009
VideoSystem	10037
Videotechnic	10217, 10374
Videoton	10163
Vidikron	10054
Vidtech	10178, 10036
Viewpia	10876
Viewsonic	10857, 10864, 10885, 11330, 11578, 11627, 11755
Viking	10060
Viore	11207
Vision	10037, 10217, 10264
Vizio	10864, 10885, 11755, 11756, 11758
Vortec	10037
Voxson	10178, 10037, 10163, 10418
W Waltham	10037, 10109, 10217, 10418, 10443, 10668, 11037
Wards	10047, 10054, 10017, 10154, 10000, 10156, 10051, 10093, 10236, 10180, 10060, 10178, 10030, 10166, 11347, 11156, 11147, 10866, 10195, 10001, 10037, 10035
Warumaia	10374, 10661
Watson	10009, 10037, 10163, 10218, 10394, 10668, 10714, 11037
Watt Radio	10163
Waycon	10156
Wega	10036, 10037
Wegavox	10009
Weipai	10009
Welltech	10714
Weltblick	10217
Welton	10178
Weltstar	11037
Westinghouse	10000, 10451, 10885, 10889, 11282, 11577
Wharfedale	10037, 10556, 10860, 11556
White Westinghouse	10451, 10236, 10463, 10037, 10623, 10889, 11909
Windsor	10668, 11037
Windy Sam	10556
Wintel	10714

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World	10451, 10236, 10463, 10180
World-of-Vision	10865, 10877, 10880, 11217, 11298
Worldview	10455
X X-View	11191
Xenius	10634, 10661
Xiahua	10009, 10264, 10698, 10773, 10817
Xianghai	10009
Xiangyang	10264
Xiangyu	10009
Xihu	10264, 10817
Xingfu	10009
Xinghai	10264
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Y Yamaha	10030, 10650, 11576
Yamishi	10037, 10217, 10218, 10455
Yapshe	10250
Yingge	10009
Yokan	10037
Yoko	10009, 10037, 10217, 10218, 10264, 10370
Yonggu	10009
Yorx	10030, 10218
Youlanasi	10817
Yousida	10009
Yuhang	10009
Z Zanussi	10163, 10217, 10264
Zenith	10047, 10017, 10000, 10093, 10463, 11265, 10812, 10178, 10030, 11145, 10145, 10171, 10092, 10037, 11904, 11909, 11911
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A Advent	11933
Akai	11675
Akura	11982
Alba	11037
Amstrad	11982
Apex Digital	11943
Audiovox	11937, 11951, 11952
Axion	11937, 11958
B Black Diamond	11037
Bush	10698, 11037, 11900
C Centrum	11037
Crown	11037
D D-Vision	11982
Denver	10587

E	Elfunk	11037
F	Ferguson	11037
	Finlux	11556
G	Goodmans	10587, 11037, 11900
H	Hitachi	11960
J	JDV	11982
	Jensen	11933
K	KLH	11962
L	Lenco	10587
	Logik	11037
	Luker	11982
	Luxor	11037
M	Matsui	11037
	Maxim	11982
	Medion	11900
	Mirror	11900
N	Naiko	11982
	Narita	11982
P	Panasonic	11941
	Philips	11454, 10556, 11961
	Powerpoint	10698
	Prima	11933
R	RCA	11948, 11958
	Roadstar	11900
S	Saivod	11982
	Samsung	11903
	Schneider	11982
	SEG	11037
	Sova	11952
	Stevison	11982
	Sylvania	10171
T	Teac	10698
	Technica	11982
	Telefunken	10698
	Thomson	10625
	Transonic	10587
U	United	10587, 11037, 11982
V	Vestel	11037

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A	Aiwa	11904, 11911
	America Action	10180
	Amstrad	10171
	Audiovox	10180
B	Beko	10486
	Black Diamond	11909
	Broksonic	10463, 11911
	Bush	11556
C	Curtis Mathes	10051
D	Daewoo	11909
E	Emerson	10236, 10463, 11909, 11911

F	Ferguson	10073, 10625
	Fidelity	10171
	Funai	11904
G	GE	10047, 10051, 10093, 11917, 11922
	GoldStar	10037
	Goodmans	10374, 11909
	Grundig	10037, 10195, 10556
H	Harley Davidson	11904
	Hinari	10036
	Hitachi	11904
I	Internal	11909
J	JVC	11923
L	LG	10178
	Lloyd's	11904
M	Magnavox	10054, 11904
	Memorex	10250
	Mitsubishi	10093, 10556, 11917
O	Orion	10463, 11911
P	Palsonic	11904
	Panasonic	10250, 10051
	Penney	10051
	Philips	10037, 10556
Q	Quasar	10250, 10051
R	Radiola	10556
	RadioShack	11904
	RCA	10047, 10051, 10093, 11917, 11922
S	Saba	10625
	Samsung	11959
	Sansui	10463, 11904, 11911
	Schneider	10037, 10556, 11904
	Sears	11904
	Sharp	10093, 11917
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	Sony	10000, 11505, 11904
	Sylvania	10054
	Symphonic	11904
T	Teac	10178, 10171
	Technics	10556
	Thomas	11904
	Thomson	10625
	Toshiba	11971
W	White Westinghouse	11909
Z	Zenith	11904, 11909, 11911

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A	Akai	11903
B	Broksonic	11938
E	Emerson	11944
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M	Magnavox	11944
P	Panasonic	11946, 11947
R	RCA	11953
S	Sharp	11917
	Sylvania	11944
	Symphonic	11944
T	Toshiba	11945

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	ABS	21972
	Admiral	20060, 20048, 20039, 20047, 20104, 20121, 20209, 20479
	Adventura	20037, 20240, 20000
	Aiko	20278
	Aim	20278, 20348, 20642
	Aiwa	20037, 20032, 20000, 20209, 20041, 20348, 20352, 20479, 20742, 21137
	Akai	20037, 20240, 20041, 20106, 20315, 20348, 20352, 20642
	Akura	20041
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	Alienware	21972
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	Allstar	20081
	America Action	20278
	American High	20035, 20081
	Amoisonic	20479
	Amstrad	20000, 20278
	Anam	20162, 20037, 20240, 20278, 20226, 20480
	Anam National	20162, 20226, 21162, 21562
	Ansonic	20000
	Aristona	20081
	ASA	20037, 20081
	Asha	20240
	Astra	20035, 20240
	Asuka	20037, 20081, 20000, 20038
	Audiolab	20081
	Audiosonic	20278
	Audiovox	20037, 20278, 20038
	Avis	20000
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	Awa	20037, 20043, 20278, 20642
B	Baird	20000, 20104, 20041, 20278, 20046, 20106
	Basic Line	20104, 20278, 20046
	Beaumark	20240
	Beko	20104
	Bell & Howell	20035, 20048, 20039, 20000, 20104, 20046, 20479

	Bestar	20278
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	Black Panther	20278
	Blaupunkt	20162, 20081, 20226
	Blue Sky	20037, 20209, 20278, 20348, 20352, 20480, 20642, 20742, 21137
	BPL	20046
	Brandt	20041, 20320
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	Brinkmann	20209, 20348
	Broksonic	20184, 20121, 20209, 20002, 20348, 20479, 21479
	Bush	20081, 20000, 20209, 20278, 20315, 20348, 20352, 20642, 20742
C	Calix	20037
	Candle	20037, 20038
	Canon	20035
	Capehart	20002
	Carena	20081, 20209
	Carrefour	20045
	Carrera	20240
	Carver	20035, 20081
	Casio	20000
	Cathay	20278
	CCE	20278
	CGE	20000, 20041
	Changhong	20048, 20081
	Cimline	20209
	Cineral	20278
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	Colt	20000
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	Criterion	20000
	Crosley	20035, 20081, 20000
	Crown	20037, 20278, 20480
	Curtis Mathes	20060, 20035, 20162, 20240, 20000, 20041, 20278, 20432, 21035
	Cybernex	20240
	CyberPower	21972
	Cyrus	20081
D	Daewoo	20037, 20045, 20104, 20209, 20278, 20046, 20352, 20637, 20642, 21137, 21278
	Dansai	20278
	Dantax	20352
	Daytron	20037, 20278

	De Graaf	20048, 20081, 20042, 20104, 20046
	Decca	20081, 20000, 20067, 20209, 20041, 20352
	Degraff	20048, 20081, 20042, 20104
	Deitron	20278
	Dell	21972
	Denon	20081, 20042
	Derwent	20041
	Diamant	20037
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	Digitor	20642
	DirecTV	20739
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	DSE	20642
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	Dynatech	20240, 20000
E	Elbe	20278, 20038
	Electrohome	20060, 20037, 20240, 20000, 20043, 20209
	Electrophonic	20037
	Elin	20240
	Elta	20278
	Emerald	20184, 20121
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	Emerson	20035, 20037, 20184, 20039, 20240, 20045, 20000, 20121, 20043, 20209, 20002, 20278, 20348, 20479, 20637, 21278, 21479, 21593
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	EuroLine	21593
F	Ferguson	20000, 20041, 20278, 20320, 20348
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	Finlux	20081, 20000, 20042, 20104
	Firstline	20037, 20045, 20042, 20043, 20209, 20278, 20348, 20480, 21137
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	Fujitsu	20037, 20045, 20000
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	Funai	20037, 20000, 20278, 21593
G	Galaxi	20000
	Galaxis	20278
	Garrard	20000
	Gateway	21972

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Gemini	20060
General	20045
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GoldStar	20035, 20037, 20039, 20000, 20209, 20278, 20038, 20225, 20226, 20480, 21137, 21237
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Gradiente	20000
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HI-Q	20035, 20047, 20000
Hinari	20240, 20209, 20041, 20278, 20352
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Hischito	20045
Hitachi	20035, 20037, 20081, 20240, 20045, 20000, 20042, 20041, 20046, 20089
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ITV	20037, 20278
J Janeil	20240
JBL	20278
Jensen	20067, 20041
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Joyce	20000
JVC	20184, 20081, 20045, 20067, 20041, 21162
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Kendo	20037, 20209, 20278, 20106, 20315, 20348, 20642
Kenwood	20067, 20041, 20038, 20046
KIC	20000
Kimari	20047
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Kodak	20035, 20037
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Lloyd's	20240, 20000, 20038
Loewe	21062, 20162, 20037, 20081, 21262, 21562
Logik	20240, 20000, 20209, 20106
Lumatron	20278, 21137
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M M Electronic	20037, 20240, 20000, 20038
Magnadyne	20081
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Magnavox	20035, 20037, 20048, 20039, 20081, 20240, 20000, 20226, 20618, 20642, 21593, 21781
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Marta	20037
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Matsui	20037, 20240, 20209, 20278, 20348, 20352, 20742
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Mediator	20081
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Metz	21062, 20162, 20037, 20081, 20226, 20347, 20836, 21162, 21262, 21562
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Murphy	20000
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Neufunk	20209
Newave	20037
Nikkai	20278
Nikko	20037, 20278
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Nishi	20240
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Noblex	20240
Nokia	20048, 20081, 20240, 20042, 20104, 20041, 20278, 20046, 20106, 20315
Nordmende	20067, 20041, 20320
Northgate	21972
Nu-Tec	20209
O Oceanic	20048, 20081, 20000, 20104, 20041, 20046, 20106
Okano	20209, 20278, 20315, 20348
Olympus	20035, 20162, 20104, 20226
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Orion	20184, 20240, 20000, 20104, 20121, 20209, 20002, 20278, 20348, 20352, 20479, 20742, 21479
Orson	20000
Osaki	20037, 20000
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Palladium	20037, 20209, 20041, 20348
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Philco	20035, 20081, 20000, 20209, 20038, 20226, 20479
Philips	20035, 20162, 20048, 20081, 20045, 20000, 20209, 20226, 20616, 20618, 20739, 21081, 21181
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Profitronic	20081, 20240
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Prosonic	20209, 20278
Protec	20000
Protech	20081
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Pulsar	20039, 20240, 20278
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Pye	20081, 20000
Q Qisheng	20060
Quarter	20046
Quartz	20035, 20047, 20046
Quasar	20035, 20162, 20002, 20278, 20226, 21035, 21162
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R Radialva	20037, 20048, 20081
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RadioShack	20035, 20162, 20037, 20048, 20047, 20240, 20000, 20104, 20046, 21162
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ReplayTV	20614, 20616
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Ricavision	21972
Rio	21137
Roadstar	20037, 20081, 20240, 20278, 20038, 20742
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Salora	20104, 20043, 20046, 20106
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Samsung	20060, 20240, 20045, 20000, 20038, 20432, 20739, 21014
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Sanky	20048, 20039
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Sansui	20240, 20000, 20067, 20209, 20041, 20002, 20106, 20348, 20479, 21479
Sanyo	20048, 20047, 20240, 20000, 20104, 20067, 20209, 20046, 20348, 20479, 21137
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Schaub Lorenz	20000, 20104, 20041, 20106, 20315, 20348	
Schneider	20037, 20081, 20240, 20000, 20042, 20278, 20348, 20352, 20642, 21137	
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Sears	20060, 20035, 20162, 20037, 20048, 20039, 20047, 20033, 20045, 20000, 20042, 20104, 20067, 20043, 20209, 20041, 21237, 20046	
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SEG	20081, 20240, 20278, 20637, 20642	
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Sharp	20037, 20048, 20047, 20032, 20000, 20209, 20807	
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[ ]*: Preset codes set upon shipment from the factory.

[ ]*: Les codes préréglés différent en fonctiom des livraison de l'usine.

DENON